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# Adolescent Alcohol Expectancies and Alcohol Use as Functions of Familial Factors.

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# Adolescent Alcohol Expectancies and Alcohol Use as Functions of Familial Factors

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## Abstract

In an extension of Brown, Creamer and Stetson (1987), this study investigated the relationships between components of family life, adolescent drinking and alcohol expectancies. Alcohol expectancies are defined as the learned associations between alcohol consumption and the results of drinking. Out of 73 adolescent (12- to 18-year old) subjects screened, 55 met criteria and participated in two comparisons with multiple dependent variables. In the first of these, 15 subjects who were exposed to alcoholics for at least 75% of their lives were found to have stronger expectations that alcohol would provide cognitive and motor enhancement than did 15 matched subjects who had been exposed to alcoholics for 25% of their lives or less. However, these groups did not differ in other alcohol expectancies or in drinking patterns. In the second comparison, there were no significant differences in alcohol expectancies or drinking patterns between two groups of 15 subjects that differed in genetic family history of alcoholism. Data from all 55 subjects were used in several regressions. One determined that the combined alcohol expectancies were significantly related to the severity of parental alcohol problems to which the adolescents were exposed. A stepwise regression found that expectations of changes in social behavior and expectations of cognitive and motor enhancement were the best predictors

of drinking pattern. These results provide moderate support for a model which suggests that adolescents' alcohol expectancies are partially learned within the family and that these expectancies mediate adolescent alcohol use.

# Adolescent Alcohol Expectancies and Alcohol Use as Functions of Familial Factors

Alcohol expectancies are the learned associations between alcohol consumption and the outcomes of drinking. It has been hypothesized that expectancies mediate decisions to drink (Brown, Christiansen and Goldman, 1987; Brown, Goldman and Christiansen, 1985). Although the validity of alcohol expectancies is well supported and the course of their development has been examined, less is known about the influence of familial factors on their origin and development. Primarily, the present paper will investigate whether family environment and a family background of alcoholism are associated with alcohol expectancies. Additionally, the relationship of these family variables to adolescent drinking patterns and of drinking patterns to expectancies will be studied.

Although alcohol expectancies exist prior to an individual's drinking, alcohol use apparently modifies them significantly. Among groups with no personal drinking experience, such as young adolescents and children, alcohol expectancies are vague and they reflect alcohol's general effects (Christiansen, Goldman and Inn, 1982). Environmental factors such as modeling by parents, peers, and the media are the likely sources of these pre-drinking alcohol expectancies. As personal experience using alcohol increases, expectancies become better defined and more

varied. For example, Christiansen, et al. (1982) found that expectancies of adolescents who used alcohol at a high frequency (defined by the authors as 1 to 2 drinks per week) were characterized as being more specific in nature. High-frequency users had "increased expectations of power, sexuality, and tension reduction," in contrast to low-frequency users whose expectancies reflected "enhancement of pleasure and interpersonal functioning" (p. 342). Brown, Goldman, Inn and Anderson (1980) found that specificity of adults' alcohol expectancies is also related to drinking levels. In their study, adults who had higher levels of alcohol use expected alcohol to enhance sexual performance and arouse aggression more than did adults with less alcohol experience. Preliminary data indicate that decreases in strength of alcohol expectancies can occur with chronic problem drinking, presumably as a consequence of severe negative consequences from alcohol use (Brown, Millar and McQuaid, in preparation).

It is theorized that alcohol expectancies mediate decisions to drink (Brown, Christiansen and Goldman, 1987; Brown, Goldman and Christiansen, 1985). A formulation for the relationship between alcohol expectancies and alcohol use can be conceptualized as follows (see Figure 1):

(a) an individual learns that alcohol has reinforcing properties, punishing properties, or both, through social learning such as modeling;

(b) this learning promotes initial drinking episodes which

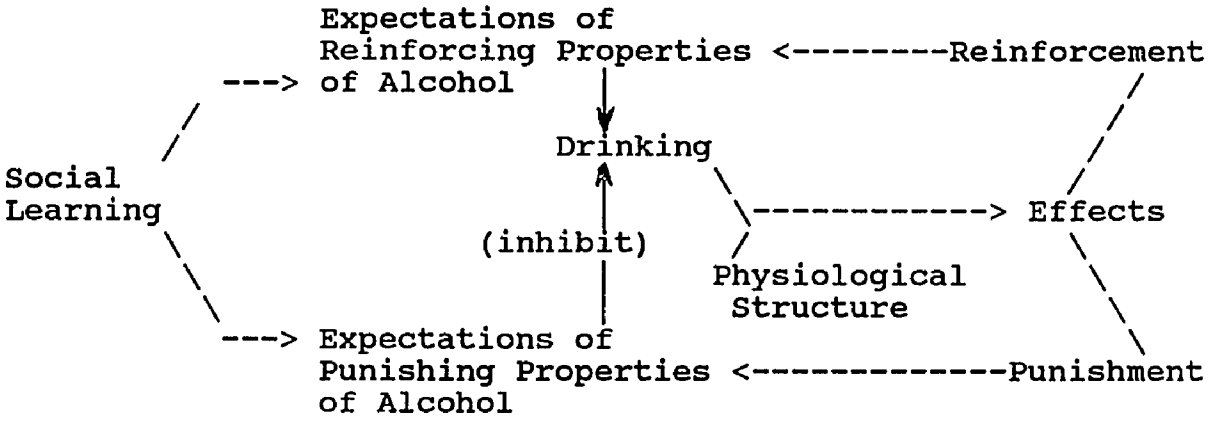


Figure 1: Alcohol Expectancies Mediation Model

result in an individual experiencing the pharmacological effects of alcohol, which vary depending upon the persons' physiological makeup;

(c) after sufficient experience with alcohol, consequences which may be reinforcing, punishing, or both, become associated with alcohol use and are anticipated for subsequent alcohol consumption;

(d) reinforcing outcomes result in expectations that alcohol continue to be reinforcing, which tend to increase drinking;

(e) punishing outcomes result in expectations of punishment which tend to inhibit drinking.

This "mediation model" implies that expectancies and drinking are closely related and that a variety of factors can influence expectancies, both directly and indirectly. Although research cannot as yet support the assumptions of causality in this model because the literature is largely comprised of correlational and quasi-experimental designs, a number of studies support the viability of the model and the construct validity of the concept of alcohol expectancies. Alcohol expectancy factors have been detected by several different measures and have distinguished groups which differ in drinking practices. For example, Mulford and Miller (1960), used college-student responses to open-ended questions to develop an 18-

item instrument which assessed the social relevance of alcohol use. The measure successfully discriminated between heavier drinkers, who tended to endorse alcohol's effects on themselves as reasons for drinking (e.g. "Liquor helps me forget I am not the kind of person I really want to be"), and lighter drinkers, who focused on alcohol's effects on social situations (e.g.,) "Liquor improves parties and celebrations"). Farber, Khavari and Douglass (1980) confirmed observations of anticipated positive and negative reinforcement as bases for drinking. A factor analysis of their 27 logically-derived items retained two factors: "Escape-Drinking/Negative Reinforcement" (e.g. "I drink to relieve tension and stress") and "Social-Drinking/Positive Reinforcement" (e.g. "I drink to be sociable"). Although the factors together accounted for only 27% of the variance, the authors concluded that detecting the two factors corresponded to and supported the previous observations of reinforcements as reasons for drinking. The authors also determined that a subsequent analysis was consistent with an hypothesis that alcoholics engage in drinking to escape punishers, based on the finding that 93% of 133 alcoholics scored in the upper half of the negative reinforcement factor. Southwick, Steele, Marlatt and Lindell (1981) found three factors describing the anticipated effects of alcohol derived from 37 Likert-type items anchored by antonyms which described possible effects of alcohol use (e.g. active/passive, happy/sad,

inefficient/efficient). Generally, subjects anticipated benefits from moderate drinking (factors 1, Stimulation/Perceived Dominance, and 2,Pleasurable Disinhibition) and negative effects from heavy drinking (factor 3, Behavioral Impairment). This measure distinguished between drinking styles, with heavy drinkers anticipating greater positive reinforcement (factors 1 and 2) from moderate doses of alcohol. Brown, et al. (1980) developed the Alcohol Expectancy Questionnaire (AEQ) with the goal of deriving a representative sample of the domain of alcohol expectancies. The 125 people surveyed generated an item pool of 216 expectancies which were distilled to 90 items that the authors determined to be statistically or conceptually significant. Six factors were derived from these 90 items and constitute the test's six scales: 1.Global Changes; 2.Sexual Enhancement; 3.Physical and Social Pleasure; 4.Social Assertion; 5.Relaxation and Tension Reduction; 6.Arousal and Aggression. The measure was able to distinguish lighter drinkers, who expected alcohol to provide general positive changes (e.g. "Drinking makes the future seem brighter"), from heavier drinkers, who anticipated more specific effects, particularly more aggressive behavior (e.g. "After a few drinks it is easier to pick a fight") and greater sexual enhancement (e.g. "After a few drinks, I am more sexually responsive").

Development procedures were similar for the adolescent version of the AEQ, known as the AEQ-A (Christiansen, Goldman and Inn, 1982), which is the only measure of adolescent alcohol expectancies yet developed. Seven factors were derived by Christiansen and Goldman (1983) and compose the AEQ-A scales: 1.Global, Positive Transformations; 2.Altered Social Behavior; 3.Improved Cognitive and Motor Abilities; 4.Sexual Enhancement; 5.Deteriorated Cognitive and Behavioral Functions; 6.Increased Arousal; 7.Promotes Relaxation or Tension Reduction. It should be noted that the AEQ-A scale names have changed somewhat since their original publication. Their most recent incarnation, as listed in Brown, Christiansen and Goldman (1987), is reflected in Table 1 of the current paper's Methods section.

Subsequent research with the AEQ and the AEQ-A has supported the mediation model by demonstrating associations between scores on the expectancy measures and a variety of factors related to drinking. Brown and others have found that AEQ and AEQ-A scores are correlated with habitual heavier drinking and both a greater number of and severity of negative effects of drinking (Brown, 1985a,b,c; Brown, Goldman and Christiansen, 1985; Brown, Mott, Creamer, Vik and Millar, 1988; Christiansen and Brown, 1985; Christiansen and Goldman, 1983; Christiansen, Goldman and Brown, 1985; Christiansen, Goldman and Inn, 1982; Mann, Chassin and Sher, 1987; Roehling and Goldman, 1987). AEQ

and AEQ-A test scores discriminate between populations which differ in alcohol use and alcohol-related experiences, including alcohol abusers and nonabusers (Brown, Creamer and Stetson, 1987), introverts and extraverts (Brown and Munson, 1987), alcoholic inpatients and medical inpatients (Brown, Goldman and Christiansen, 1985; Zarantonello, 1986), children of alcoholics and children of nonalcoholics (Montiero and Podany, 1986; Weickgenant, Brown and Schuckit, in preparation), and Irish and American adolescents (Christiansen and Brown, 1985). Two AEQ-A scales, 2 and 3 (Altered Social Behavior and Cognitive and Motor Enhancement, respectively) are among the best individual predictors of adolescents' current problematic drinking (Mann, Chassin and Sher, 1987) and frequent drinking, when compared to the other AEQ-A scales and demographic variables (Christiansen and Brown, 1985; Christiansen and Goldman, 1983; Christiansen, Goldman and Brown, 1985; Creamer and Brown, 1985).

One aspect of the mediation model which has received relatively little attention is the origin of alcohol expectancies. Two studies have focused on the family, which is a likely source of children's concepts of alcohol. Montiero and Podany (1986) found that parents' alcohol use patterns and expectancies are significantly, although not strongly correlated with their adolescent children's alcohol expectancies ($r$'s for the seven AEQ-A scales ranged

from .15 to .33, mean = .21). Brown, Creamer and Stetson (1987) determined that alcohol expectancies among substance-abusing and normal adolescents varied in relation to parental drinking patterns. In the study, the AEQ-A was administered to 116 adolescents between the ages of 12 and 19 who, along with a parent, were recruited from adolescent and adult alcoholism treatment programs and through advertisements. Interviews were conducted to obtain demographic data and a record of customary drinking practices from each adolescent and from one parent of each adolescent. Adolescents were divided along two dimensions: alcohol abuse (abusers vs. nonabusers) and family history of alcoholism (positive vs. negative). Among the resulting groups, 54% of the subjects were male, 68% lived with married parents, and 86% were white. There were no significant differences between groups on age, grade in school, father's level of education, parents' occupations, or number of times the parents had been married. However, the abusing groups reported more school problems and more polydrug use than the nonabusing groups. There were no differences between the two abusing groups nor between the two nonabusing groups in the quantity or frequency of alcohol use. As expected, subjects in alcoholism treatment admitted to more frequent alcohol use and larger quantities consumed than did those not in treatment. A significant difference was found for family background of alcoholism, with the family history positive group of adolescents having

stronger expectations of cognitive and motor enhancement (AEQ-A Scale 3). There was also a tendency for this group to have higher scores on AEQ-A Scale 6 (Increased Arousal; $p<.08$).

Results from these two studies suggest that the family does play a role in the origin and development of alcohol expectancies and that familial factors should be included in the mediation model. Including the family would be consistent with the findings of a large body of research that relates a family history of alcoholism to problem drinking in offspring (for reviews see Blane and Hewitt 1977; Cotton, 1979; NIAAA, 1985; Russell, Henderson and Blume, 1985). In large part, such research contrasts the effects of family environment and genetic family history of drinking. These two factors also have the potential to influence alcohol expectancies.

There is indirect evidence that environmental factors influence children's alcohol expectancies and drinking. Interpretable expectancy factors were derived from the responses of children from 5 to 12 years of age (Miller, Smith and Goldman, 1986) and from young adolescents (Christiansen, Goldman and Inn, 1982). The finding of alcohol expectancies among these non-drinkers implicates environment, possibly peers, the media, and the environment of the family, as sources of expectancies. Several researchers suggest that family environment influences

drinking patterns of offspring (Cadoret, Cain and Grove, 1980; Cotton, 1979; Goodwin, 1981; Harburg, Davis and Caplan, 1982; Stabenau and Hesselbrock, 1983; Woodside, 1983). In one study, Harburg, Davis and Caplan (1982) found that the drinking patterns of some of their adult subjects were the opposite of the drinking patterns of the subjects' parents. The authors concluded that while some transmission of drinking patterns is imitative, what they described as "aversive transmission" also occurs. In aversive transmission, children react against their parents' very heavy alcohol use or against their parents' complete abstinence from alcohol by developing the opposite drinking pattern. While these results indicate that family environment plays a role in determining drinking, they also indicate that the effect of environment is complex. Further tests of the relationship between family environment and adolescent drinking are warranted. The mediation model indicates that social learning has influences on alcohol expectancies and on drinking patterns. Support for the hypothesis that family environmental factors are part of the social learning and that they influence adolescent alcohol expectancies and drinking patterns would be indicated by a finding that the strength or type of reinforcement from alcohol expected by adolescents and their drinking habits differ with exposure to alcoholic models in the family.

Alcohol expectancies also appear to be influenced by factors independent of family environment, such as physiological responses to alcohol use. As previously mentioned, adolescent alcohol expectancies become more specific and varied with increased age and experience with alcohol (Christiansen, Goldman and Inn, 1982). Christiansen, Goldman and Brown (1985) determined that these age-related changes differ across alcohol expectancies, with some expectancies becoming stronger and others weaker as adolescents grow older. In some cases, the patterns of the changes depend on alcohol use patterns, with adolescents who more heavily use alcohol maintaining stronger expectancies as they age. Christiansen, Goldman and Brown (1985) concluded that these variations in expectancies were associated with the adolescents' own experiences using alcohol. As will be discussed below, some studies suggest that a family background of alcoholism influences an individual's drinking experiences through genetically-determined pharmacological responses to alcohol. If this relationship does exist, then family background may also influence alcohol expectancies indirectly, by way of determining pharmacological reactions to drinking.

The short-term and long-term effects of alcohol use differ between families, apparently due to genetic, and independent of environmental, influences. Much research

has found that relatives of alcoholics are more likely to develop drinking problems than are people who have no alcoholic relatives. Such results have been interpreted as indicating a strong influence of an individual's unique physiological make-up on problem drinking. For example, a review by Russell, Henderson and Blume (1985) described studies of concordance of alcohol problems among family members: Alcohol problems were shown to coincide more among monozygotic than among dizygotic twins, with 71% concordance vs. 32% in one study, and 26% vs. 12% in another, although the difference between groups was nonsignificant when females were included in a third study (21% vs. 25%). Similarly, higher rates of concordance of alcohol problems have been found among biological family members of alcoholics than among those of nonalcoholics (30.8% vs. 4.7% across studies summarized by Cotton, 1979; 62% vs. 20% in Schuckit, Goodwin and Winokur, 1972) and more among family members of male alcoholics than among family members of male psychiatric patients (78% vs. 43% in Stabenau and Hesselbrock, 1983). According to some researchers in adoption studies, genetic relationship is more important than environment in explaining alcoholism transmission, since familial concordance rates of alcohol problems remain when environmental factors are controlled (Bohman, 1978; Bohman, Sigvardsson and Cloninger, 1981; Cadoret, Cain and Grove, 1980; Goodwin, Schulsinger, Hermansen, Guze and Winokur, 1973; Goodwin, Schulsinger,

Moller, Hermansen, Winokur and Guze, 1974). For example, Goodwin, et al., (1973) found that among men who had been adopted as children, 18% of those who had an alcoholic biological parent met the criteria for alcoholism, compared to 5% of the adopted controls. Results from Goodwin, et al., (1974) indicated no significant differences in rates of alcoholism between men who as children had been adopted and their brothers who were left in the biological family and were raised by the alcoholic parent (25% vs. 17%). The authors concluded that environmental factors influenced the expression of alcoholism little, if at all. However, Cloninger, Bohman and Sigvardsson (1981) determined that genetic influence explains alcoholism transmission independent of environment only for men who are severe in their alcohol abuse, which was apparently the type studied by researchers who minimized the role of environmental factors in their conclusions. Peele (1986) similarly contended that the case for genetic control of alcoholism transmission is overstated and that the literature supports a much more complex causal model, with environmental and individual factors also playing important roles. The relative contributions of genetic and environmental factors to transmission of non-severe drinking problems are unclear and warrant further study.

While the above studies indicate that long-term drinking outcomes are related to non-environmental familial

factors, others have shown that such factors are also associated with the immediate effects of alcohol. Studies of responses to alcohol among nonalcoholic offspring of alcoholics have suggested that a risk factor for alcoholism is this population's relative insensitivity to the effects of moderate doses of alcohol in physiological (Schuckit, 1984a; Schuckit, Parker and Rossman, 1983), subjective (O'Malley and Maisto, 1985; Savoie, Emory and Moody-Thomas, 1988; Schuckit, 1980, 1984b; Vogel-Sprott and Chipperfield, 1987), and motoric responses (Lex, Lukas, Greenwald and Mendelson, 1988; Savoie et al., 1988; Schuckit, 1985). This insensitivity is not found in all areas of functioning, however: Vogel-Sprott and Chipperfield (1987) determined that young men with alcoholic parents were more sensitive than controls to a moderate dose of alcohol on tests of hand steadiness and bead-stringing.

Other research with nonalcoholics has found similar differences between people with and people without alcoholic parents, even without administering alcohol. The measures used were those which previously detected deficits among alcoholics, which suggests that such differences might put people at risk for alcoholism, or at least might be used to predict alcoholism. Schaeffer, Parsons and Yohman (1984) found that nonalcoholic males with a family history of alcoholism were more impaired than were controls on measures of "abstracting/problem solving"; similar differences between groups in perceptual-motor measures

approached significance ($p < .06$). Tarter, et al. (1984) found that delinquent boys who were sons of alcoholics performed more poorly than did delinquents who had nonalcoholic parents on several neuropsychological tests, including measures of reading comprehension, "attention, memory, perceptual-motor coordination, motor speed, spatial sequencing and language capacity" (p.220). The groups also differed on personality measures, based on which the sons of alcoholics were described as more neurotic but less impulsive than the controls. Begleiter, Porjesz, Bihari and Kissin (1984) found differences in visual-event-related cortical P3 voltage of EEG, which the authors indicated is associated with stimulus significance and memory encoding. The lower P3 voltages among non-drinking seven- to thirteen-year-old sons of alcoholics than among matched controls suggest cognitive deficits among the probands. These results correspond to similar deficits among alcoholics and were judged by the authors to support lower P3 voltages as a marker of memory difficulties and risk for alcoholism. A follow-up study found no differences in brainstem response to auditory stimuli, which suggests that deficits in brainstem potentials that are often detected in alcoholics are the result of drinking or associated nutritional deficits (Begleiter, Porjesz and Bihari, 1987). Together, these diverse results indicate that nonalcoholic children of alcoholics differ in a complex manner

neurologically, physiologically, and psychologically from children of normals, both prior to drinking and in response to alcohol. However, it is not known whether the ultimate causes of these differences are genetic, environmental, teratogenic, perinatal, or some combination.

In any case, it is possible that the Brown, Creamer and Stetson (1987) finding that children of alcoholics differ from controls in the effects they expect from alcohol because of pharmacological differences in responses to drinking. Physiological structure appears to determine how alcohol affects individuals. If so, people with a genetic family history of alcoholism may have stronger expectancies because their physiological reactions to alcohol are particularly reinforcing. In turn, these stronger expectancies may lead to increased drinking and drinking problems among this population. This hypothesized relationship would be supported by the finding that alcohol expectancies differ with a genetic family history of alcoholism, a variable that has served as an approximation of genetic/physiological risk for alcoholism in many of the above studies.

This study will extend Brown, Creamer and Stetson (1987) by investigating the effects of specific familial factors, namely family environment and genetic family history of alcoholism, on adolescent alcohol expectancies and drinking patterns. Significant results would support the inclusion of familial factors in the general model

relating alcohol expectancies to drinking patterns.

## Summary and Hypotheses

Although a family history of alcohol problems is apparently related to adolescent alcohol expectancies, and in particular to the anticipation of cognitive and motor enhancement, the mechanism through which this relationship occurs is not clear. A likely candidate is family genetic background, since this factor seems to be related both to alcohol use patterns and to many types of responses to alcohol, which in turn are both related to alcohol expectancies. Based on the results of these studies and on Brown, Creamer and Stetson (1987), it is hypothesized that adolescents with a family background of alcoholism drink more, have alcohol expectancies which differ from those of controls, and, specifically, anticipate greater cognitive and motor enhancement.

Familial environmental factors appear to influence alcohol consumption and may also affect adolescents' alcohol expectancies, perhaps through modeling of parents' verbalizations of expectancies and demonstrations of alcohol's effects. It is anticipated that adolescents with a high degree of exposure to familial alcoholic models use alcohol more, differ in alcohol expectancies, and, particularly, have stronger expectations of cognitive and motor enhancement, relative to adolescents with less exposure.

Finally, it is presumed that previous findings of relationships between expectancies and drinking patterns will be supported; in particular, significant relationships are anticipated between drinking patterns and AEQ-A Scales 2 and 3 (Changes in Social Behavior and Cognitive and Motor Enhancement).

To test these hypotheses, data were gathered from adolescents through structured interviews and questionnaires, and verified in separate structured interviews with parents. Adolescents were categorized with respect to genetic family history of alcoholism and by degree of exposure to alcoholic models, based on interview data. Alcohol expectancies were measured by the AEQ-A, while drinking patterns and family backgrounds were assessed in the interviews.

## METHOD

### Design

A variety of comparisons were made to investigate the hypotheses. Most of them paired adolescents who had relatively long exposure to alcoholic models to those who had short durations of such exposure, or paired adolescents who had a genetic family history of alcoholism to those who did not have such a history. These groups were compared on two dependent variables: expectations of alcohol's ability to enhance cognitive and motor functioning, and the number of times in their lifetimes subjects had been drunk, the latter being a measure of drinking patterns. Two *t* tests were used to assess group differences on these variables. Comparisons of the subject groups on the other alcohol expectancies that are measured by the AEQ-A were assessed by two one-way MANOVAs. Differences between groups' volume and variability of drinking were assessed with chi-square. Relationships between continuous variables were tested by two types of multiple regressions. One examined the relationships between a second measure of exposure, namely severity of parents' alcohol problems to which adolescents were exposed, and the dependent measures, alcohol expectancies and the number of times the subjects had been drunk. The other, a discriminant analysis tested the ability of alcohol expectancies to discriminate between drinking patterns.

Subjects

Subjects included in this study met a variety of criteria. Seventy-three adolescents and one parent of each were interviewed. All were volunteers who were recruited either through relatives who were patients in alcoholism treatment programs in the San Diego area, or through posted bulletins, newspaper notices, or by other participants. Volunteer families were screened in telephone interviews (Appendix A) to ensure they met the criteria for inclusion in the study and to preliminarily indicate family history and exposure to alcoholics. Final determination of inclusion in the study was based on data gathered in structured interviews.

To maximize effects of the independent variables,criteria were set so that extreme groups were defined for genetic family history and exposure to alcoholic models. Subjects were considered to have a genetic-family-history positive for alcoholism only if a biological parent or more than one second degree genetic relative (e.g. grandparents, aunts, uncles) were alcoholic. A subject was considered genetic-family-history negative for alcoholism only if there was no history of alcoholism among that subject's first- and second-degree genetic relatives. Subjects were defined as having long-term exposure to alcoholics if they had spent at least 75% of their lives living with or visiting on a regular basis alcoholics who had exhibited significant life problems

resulting from their drinking. Visitations with an individual alcoholic must have occurred at least 50 days per year to count toward total exposure time. Visitations could not count for more than half of the total exposure to alcoholics; this criterion ensured that at least half of the exposure was to alcoholic parental figures who lived with the adolescent. Subjects were considered to have had short-term exposure to alcoholics if they lived with or visited alcoholics for no more than 25% of their lives.

Despite preliminary screening, 7 of the 73 subjects interviewed were excluded from the data analysis for several reasons. Two did not complete the questionnaires. One who abused drugs was excluded to eliminate unpredicted effects of drug abuse on alcohol expectancies. The genetic family histories of two could not be determined, one because the subject was adopted, the other because the subject's father was adopted. Two subjects turned 19 years old before the interviews could be scheduled.

Other subjects were excluded from the comparisons of exposure duration and genetic family history. Five subjects who had a moderate degree of exposure to alcoholics (i.e. between 25% and 75% of their lives), and so did not meet criteria for the long- or short-term exposure groups in the tests of exposure duration, were excluded. Similarly, four subjects who had only one second-degree alcoholic relative were excluded from tests

of genetic family history because they did not meet criteria for either of the family history groups. Eighteen subjects were also excluded from the test of genetic family history for never having drunk alcohol, other than a taste or sip of another person's beverage. Such subjects would never have had a chance to personally experience the effects of alcohol and so would not provide an adequate test of the genetic family history hypothesis. Data from subjects in these groups were available for use in the tests from which they were not excluded. The exclusions left 61 subjects available for matching for the *t* tests comparing groups on exposure duration, and 44 subjects for the *t* tests comparing genetic family history groups.

As a result of self-selection and of these restrictions on participation, the population represented by this sample of subjects is atypical in some respects. The sample does represent the general population in that it is primarily white, middle-class, Christian adolescents. It is somewhat more restrictive in that subjects do not themselves abuse alcohol or other drugs, and in that they and their parents were motivated to volunteer for a time-consuming research project.

For the comparisons of groups on exposure duration and genetic family history, subjects were matched on age, gender and number of families with which the subject had lived for six months or longer. The latter variable is a measure of family instability. In addition, family

background of alcoholism was a matching criterion for the test of exposure, and proportion of lifetime exposure to alcoholics was a matching criterion for the test of family history, to keep these variables independent of each other in the analyses. Out of the subjects available, data from 49 were used in the *t* tests; 11 subjects were included in both tests. Each *t* test had an *N* of 30. Data from these subjects and an additional six subjects who had available CAST (Children of Alcoholics Screening Test) scores were used in the regression analyses. These 55 subjects were between the ages of 12 and 18 (mean = 15.1, *sd* = 1.6) and in secondary school; 35 were female. The ethnic background of the sample was 60.8% European ancestry, 21.4% Portuguese, Filipino or Spanish, 8.9% Mexican American, 1.8% AfroAmerican, 1.8% American Indian; 5.4% identified themselves as having no ethnic identity or as American. The religious background was 35.8% Protestant, 30.4% Catholic, 14.3% Jewish, 1.8% Mormon, 8.9% other, and 8.9% none.

Adequacy of matching was determined by comparing groups on the matching variables reported above, plus a set of others which may influence alcohol use and expectancies. Socioeconomic status (SES) of the family was estimated with the Hollingshead Two-Factor Index of Social Position (Hollingshead and Redlich, 1958), a widely-used scale which bases its rating of SES on education and occupation status.

The Family Relationship Index (FRI) from the Family Environment Scale (Moos, 1986) was used to evaluate current family functioning and support. The FRI is comprised of the Cohesion, Expressiveness, and Conflict subscales and has been shown to be relevant in distinguishing normal from distressed families, and alcoholic from non-alcoholic families (Moos, 1986). The FES manual (Moos, 1986) reports good psychometric properties for these subscales, with internal consistencies above .68, two-month test-retest reliabilities above .72, and "good construct validity" (p. 24).

Although subjects were recruited in sufficient numbers to conduct the analyses described above, this study was originally intended to compare exposure and genetic family history in a 2 X 2 full-factorial design. Unfortunately, only one of the 73 volunteers for this study (and only one other volunteer for a companion study of substance-abusing adolescents) met the criteria for the missing cell: no family history of alcoholism with a long duration of exposure to alcoholics. Thus, interaction effects between the independent variables could not be assessed. However, the main effects of the two independent variables were investigated, as originally intended, by the *t*-tests described above. Several reasons may account for the paucity of subjects without a genetic family history of alcoholism but with long-term exposure to alcoholics: one, such subjects may be rare; two, if they do exist, they do

not respond to requests for research volunteers, perhaps because they or their parents are reluctant to discuss the family's current alcohol-related problems.

Instruments

For convenience, the instruments and the independent, dependent and matching variables derived from them are summarized in Table 1 at the end of this section.

The Alcohol Expectancy Questionnaire-Adolescent Version (AEQ-A; Christiansen, Goldman and Inn, 1982; Appendix B) was used to assess subjects' expectancies regarding alcohol. In this test, subjects are asked to indicate whether they agree or disagree with each of 100 statements about alcohol and its effects. Factor analysis was used by Christiansen and Goldman (1983) to derive the seven scales listed in Table 1.

The AEQ-A items of particular interest to this study are the ten that compose Scale 3, Cognitive and Motor Enhancement:

Most people think better after a few drinks of alcohol.
People drive better after a few drinks of alcohol.
Drinking alcohol helps teenagers to do their homework.
A person can do things better after a few drinks of alcohol.
When talking with people, words come to mind easier after a few drinks of alcohol.

Drinking alcohol makes people feel more alert.

People understand things better when they are drinking alcohol.

It is easier to play sports after a few drinks of alcohol.

People can control their anger better when they are drinking alcohol.

Alcohol makes people better lovers.

Affirmative answers to these questions load positively on Scale 3. Each item has equal weighting, so scores on this scale can range from 0 to 10.

In their summary of the research on the AEQ and AEQ-A, Brown, Christiansen and Goldman (1987) judged the psychometric properties of the AEQ-A to be acceptable. Internal consistency estimates for the AEQ-A scales range from .47 to .82, with a mean of .72. Eight-week test-retest reliability in a college-age sample ranged from .39 to .61, with a mean of .52; for Scale 3 it was .56. The authors hypothesized that these moderate correlations resulted from changes in drinking patterns and in beliefs about alcohol that "typically take place during the initial college years" (p. 486). Reliability was estimated to be .92 by a procedure in which ten items of the AEQ-A were repeated within the same test (Christiansen, Goldman and Inn, 1982). However, reliability studies based on all test items given to adolescents are not yet available. Finally,

Brown, Christiansen and Goldman (1987) reviewed two studies which indicate that the AEQ-A is largely independent of measures of social desirability and delinquency.

Structured interviews, which were developed in conjunction with a larger research project, assessed demographics, determined who among each subject's relatives had alcohol problems, and determined the amount of the subject's exposure to them. Adolescent subjects (Appendix C) and their parents (Appendix D) were asked the following multiple-component question, the criteria of which were derived from a diagnostic interview by Schuckit et al. (1988) that has been indicated to be highly reliable: "There are a number of problems people might have because of their own drinking. Has anyone in your family (children, father, mother, brother, sister, stepfather, stepmother, stepsiblings, aunts, uncles, grandparents, etc.) had:

1. Marital separation or divorce because of their drinking;
2. Been laid off from work or fired because of their drinking;
3. Two or more drunk driving arrests because of their drinking;
4. Two or more arrests for public intoxication, drunk and disorderly conduct, or a similar charge, because of their drinking;

5. A doctor say alcohol had harmed their health;
6. Been treated in an alcohol treatment program;
7. Been suspended or expelled from school 2 or more times because of their drinking;
8. Had other problems because of their drinking, such as isolating themselves from the rest of the family, causing family arguments or fights, being drunk a lot, drinking a lot throughout the day, mood changes (good or bad)."

An affirmative answer to any one of the first seven questions was sufficient to indicate an alcohol problem for a specified member of a subject's family. An alcohol problem could also be diagnosed for an individual based solely on question eight if the problems reported were judged by a standing committee of investigators in the larger research project to be significantly severe, and particularly if at the time of suspected drinking problems the individual had little opportunity to encounter the first seven problems listed, such as might be the case with someone who does not work or drive. Follow-up questions determined what relationship the identified person was to the adolescent, that person's age at which drinking became a problem, current age, number of years the subject lived with the person, and frequency and duration of the subject's contacts with the person. This information was used to categorize subjects with respect to genetic family

history of alcoholism and exposure to alcoholics.

The Customary Drinking/Drug Use Record (CDDR; Appendix E) addresses subjects' specific drinking and drug use patterns, i.e. quantity, frequency and variability of substance use and frequency of intoxication. This measure is an extension of the Customary Drinking Record which was developed by Brown, Goldman, Inn and Anderson (1980) and used in subsequent research by Brown and colleagues to assess drinking patterns (Brown, 1985a,b; Brown, Goldman and Christiansen, 1985; Brown and Munson, 1987). Brown, et al. (1980) found the CDR to be adequately reliable, based on moderate correlations (.56 to .61) between the two ways it estimated drinking quantity and frequency. One method was to have subjects specify dates and quantity of drinking in the two weeks prior to the assessment. The other was to have subjects relate settings, quantity, frequency and outcomes of drinking. Accuracy of these responses was estimated at over 75% by 75% of the subjects. Brown et al. (1980) stated that these estimates of accuracy and measures of reliability indicate that the CDR provides acceptable estimates of drinking.

A composite of answers to several key questions in the CDDR was used to determine the drinking patterns of subjects in the three months prior to the interview. Frequency of drinking beer was assessed by the question, "During the last 3 months, how many days per month did you drink beer?" (for which the possible range is 0 to 30).

Quantity of drinking beer was measured by asking, "Over the last 3 months, in the average 24-hour period you were drinking, how much beer did you have?" (range is 0 to 98). Referring to the most recent beer drinking occasion, variability in drinking was addressed by the question, "How many beers did you drink on that occasion?" (range is 0 to 98). The same questions were also asked for wine and hard liquor. Quantity, frequency and variability of drinking all types of alcohol were compiled into the Volume-Variability (V-V) Index (Cahalan and Cisin, 1968), a categorization of drinking behavior combining estimates of volume of all types of alcohol consumed and variability in amounts consumed.

Categorization of drinking patterns by quantity and frequency of drinking, of which the V-V Index is one version, is widely used. Categorization has been applied to determine the relationship of drinking level to beliefs about the effects of alcohol (Leigh, 1987), neuropsychological functioning (Carey and Maisto, 1987; Yohman et al. 1988), degree to which consequences of drinking were rated as indicative of problem drinking (Matross and Hines, 1982), and marital satisfaction and psychiatric symptomology (Jacob, et al., 1983). It has also been used to describe large-scale survey data (Fitzgerald and Mulford, 1981, 1982, 1983; Hilton and Clark, 1987). Finally, it has been a dependent measure

(Carey et al., 1988) and a variable on which to match subjects (Weickgenant, et al., in preparation). Categorization of drinking based on self-report of drinking quantity and frequency is found to have "considerable reliability" and to agree closely with reports of informants (Vogel-Sprott, 1983, p.819). However, critics note that categorization is not universally applicable or appropriate as a measure of drinking (Apao and Damon, 1982; Sobell et al, 1986; Vogel-Sprott, 1983), and encourage the use of alternatives, such as alcohol use timelines, and quantity and frequency as individual variables. Vogel-Sprott (1983) suggests the alternative of developing alcohol use norms against which subjects may be compared. Nevertheless, the V-V Index alone was used in the present study for several reasons. First, the reliability and validity of the V-V Index are empirically supported, whereas the proposed alternatives are as yet unproven. Second, this study's relatively small sample precludes a large number of analyses; due to this restriction, categorization is an efficient summarization of the data.

The final questions in the present study regarded frequency of intoxication: "In your life, how many times have you been drunk?" (range is 0 to 998) and "When you drink, how often do you get drunk?" Possible answers to the latter question are as follows:

0. Don't drink
1. Stop before getting drunk
2. Almost always stop before getting drunk
3. Stop before getting drunk more than half the time
4. Get drunk more than half the time
5. Usually get drunk

Self-report data have been demonstrated to be reliable and valid measures of drinking in many cases, even among alcoholics. For example, Sobell and Sobell (1978) found that data from court-referred alcoholics were consistent with legal records of drinking problems. A review by O'Farrell and Maisto (1987) reported a number of outcomes similar to Sobell and Sobell (1978), and that various methodological factors have been found to improve validity of self-reports of drinking, including using a structured interview, the subject being alcohol- and drug-free during the interview, the subject having no withdrawal symptoms or acute distress, the subject being aware that information will be verified with other sources, the subject having no obvious motive to falsify information, the subject being aware of confidentiality of the interview data, and good rapport between the interviewer and the subject. Because the current study's methods were consistent with these guidelines, it was anticipated that the adolescent interview data would provide valid information to determine

practices. Data from interviews with parents were used to confirm information about alcohol use problems within the family. In the event of discrepancies between parent and adolescent information on drinking problems, the more pessimistic indication of functioning was assumed to be the more accurate and was used in the data analysis.

The Children of Alcoholics Screening Test (CAST; Pilat and Jones, 1985; Appendix F) provided an alternative measure of exposure to parental alcohol problems. The CAST is a 30-item measure of the adolescents' concerns and experiences related to a parents' drinking and drinking-related behavior. Because items have unit weightings, possible scores range from 0 to 30. This test has successfully discriminated between children of alcoholics and children of nonalcoholics among children, adolescents and adults (Pilat and Jones, 1985). It provides a measure of severity of the parental alcohol-related problems to which people have been exposed, which compliments the data on exposure duration which was derived from the interviews.

Procedure

As part of a larger research project, each adolescent and one of each adolescent's parents participated in a 1.5 to 2 hour interview with the structured interview and CDDR; additionally, the adolescents filled out the AEQ-A and CAST. In order to maintain confidentiality, adolescents and parents were interviewed individually by different

experimenters. Subjects were permitted to complete the questionnaires at home following the interview.

All participation was voluntary and carried out within the ethical guidelines of the treatment programs involved and the University of California, San Diego under whose authority the study was run. Each subject and each parent signed consent forms which fully explained the procedure and purposes of the study. In addition, the parents countersigned the consent forms of minor children. Each subject was given a "Subjects' Bill of Rights," (Appendix G) a copy of the consent form (Appendices H1 and H2), and $10.00 for completing the interview and questionnaires.

Table 1

Instruments and Variables

| Instruments | Variables | Score Ranges |
|---|---|---|
| Alcohol Expectancy Questionnaire - Adolescent Version | Global Changes | 0 - 15 |
| | Changes in Social Behavior | 0 - 17 |
| | Cognitive and Motor Enhancement | 0 - 10 |
| | Sexual Enhancement | 0 - 7 |
| | Cognitive and Motor Impairment | 0 - 24 |
| | Arousal | 0 - 4 |
| | Relaxation and Tension Reduction | 0 - 13 |
| Structured Interview | Duration of Exposure to Alcoholics | Long or Short |
| | Genetic Family History of Alcoholism | Positive or Negative |
| | Age | 12 - 17 |
| | Gender | female or male |
| | Socioeconomic Status (Hollingshead Index) | 11 - 77 |
| | Family Instability (Number of families with which the subject had lived | 1 -open |
| Customary Drinking/Drug Use Record | Volume-Variability (V-V) classification of drinking | 1 - 8 |
| | Number of times intoxicated in lifetime | 0 - 998 |
| | Frequency of intoxication | 0 - 5 |
| Children of Alcoholics Screening Test | | 0 - 30 |
| Family Environment Scale | Cohesion | 0 - 9 |
| | Expressiveness | 0 - 8 |
| | Conflict | 0 - 8 |

## Results

The primary questions of this research were whether environmental factors associated with exposure to alcoholics in the family, a family genetic background of alcoholism, or both differentiate adolescents on drinking patterns and on expectations that alcohol will produce cognitive and motor enhancement. Adolescents with long-term exposure to alcoholics were matched with adolescents who had little or no exposure to alcoholics, and adolescents with genetic family histories of alcoholism were matched with adolescents who had no genetic family history of alcoholism. These groups were compared on drinking patterns, expectations of cognitive and motor enhancement, and other alcohol expectancies. Also, severity of the drinking problems to which adolescents were exposed was correlated with alcohol expectancies and drinking patterns. Lastly, the relationship between alcohol expectancies and drinking patterns was assessed.

### Duration of Exposure to Alcoholics

Prior to making comparisons based on exposure duration, the adequacy of the group matching was determined by MANOVA. For analysis of exposure duration, the two groups of 15 subjects were compared on demographic and background variables, namely family history of alcoholism, gender, age, number of families with which the subject lived, SES (Hollingshead score), Volume-Variability (V-V),

and the Cohesion, Expressiveness, and Conflict subscales from the Family Environment Scale (FES). The assumption of homogeneity of the MANOVA variance/covariance matrix was confirmed ($F(45,2368) = 1.279$, $p = .14$), which indicated that the results of this MANOVA could be validly interpreted. The groups were found not to be equivalent on the matching variables (Wilks lambda = 0.476, $F(9,20.25) = 2.472$, $p = .044$). Follow-up tests determined that the long-term exposure group had higher Hollingshead scores (i.e. lower SES), higher FES Conflict scores, and lower scores on FES Cohesion (see Table 2). These results indicated that efforts at matching subjects were not entirely successful. However, the group differences in family conflict and family cohesion are consistent with results of studies of alcoholic families reviewed by Moos (1986). The present study's finding of lower SES among long-term exposure families also suggests greater dysfunction among families with alcoholics. These differences indicate that family relations and SES need to be taken into account in interpreting the current study's findings based on duration of exposure to an alcoholic family environment.

As hypothesized, adolescents who had long-term exposure to alcoholics were found to have stronger expectancies of alcohol's ability to enhance cognitive and motor functioning (i.e. higher scores on AEQ-A Scale 3) than did adolescents with little or no exposure (see Table 2).

Table 2

Mean Scores (and Standard Deviations)

for Exposure Duration Groups

| Measure | Exposure Duration: Long | Exposure Duration: Short | Statistic |
|---|---|---|---|
| Hollingshead | 41.3 (11.3) | 31.1 (13.1) | $F^a = 5.05^*$ |
| FES Conflict | 5.6 (2.6) | 2.6 (2.3) | $F = 11.69^{***}$ |
| FES Cohesion | 4.9 (2.2) | 7.7 (1.2) | $F = 18.34^{***}$ |
| AEQ-A Scale 1 (Global Changes) | 7.5 (2.9) | 5.6 (3.4) | $F = 2.66$ |
| AEQ-A Scale 2 (Changes in Social Behavior) | 6.8 (3.4) | 4.5 (3.8) | $F = 3.12$ |
| AEQ-A Scale 3 (Cognitive and Motor Enhancement) | 1.1 (1.0) | 0.3 (0.5) | $t^b = 2.63^{**}$ |
| AEQ-A Scale 4 (Sexual Enhancement) | 4.4 (1.7) | 3.6 (1.8) | $F = 1.77$ |
| AEQ-A Scale 5 (Cognitive and Motor Impairment) | 22.3 (1.4) | 21.2 (2.1) | $F = 2.94$ |
| AEQ-A Scale 6 (Arousal) | 5.5 (2.0) | 4.4 (1.9) | $F = 2.51$ |
| AEQ-A Scale 7 (Relaxation and Tension Reduction) | 10.3 (3.7) | 10.1 (2.6) | $F = 0.01$ |

$^*p < .05$. $^{**}p < .02$ $^{***}p < .005$

[a] $df$ for all $F$ tests = 1,28

[b] t-test is two-tailed and adjusted for unequal variances ($df$ = 20.77).

Because the two groups' variances on Scale 3 were found to be unequal ($F(1,28)=3.88$, $p = .008$), degrees of freedom for the $t$ test were adjusted from 28 to 20.77 to correct for potential alpha level inflation.

A MANOVA indicated that subjects with long-term exposure to alcoholics had significantly stronger expectancies overall, but group differences in individual expectancies only approached significance (excluding the previously executed test of AEQ-A Scale 3). The use of a MANOVA in comparing subjects on AEQ-A scores is appropriate because the AEQ-A scales are sufficiently independent of each other (Table 3). The assumption of homogeneity of the variance/covariance matrix was confirmed ($F(21,2884) = 1.182$, $p = .275$). For the MANOVA which compared groups on alcohol expectancies, Wilks lambda was 0.605, with $F(6,23.5) = 2.557$, $p = .047$, which indicated that the groups differed in the set of AEQ-A scores. Follow-up tests (see Table 2) determined that differences between groups were not clearly significant on any of the individual scales, but approached significance on two of them, with the long-term exposure group having marginally higher scores on both Scale 2 (Changes in Social Behavior) and Scale 4 (Sexual Enhancement). As predicted, the scores on the other four expectancy scales were higher for the long-term exposure group than for the short-term group, but not significantly so.

Table 3

AEQ-A Subscale Intercorrelations

| Scales | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 2 | .42 | | | | | |
| 3 | .42 | .31 | | | | |
| 4 | .67 | .41 | .37 | | | |
| 5 | .27 | -.08 | .21 | .39 | | |
| 6 | .63 | .40 | .53 | .62 | .37 | |
| 7 | .66 | .45 | .40 | .65 | .38 | .61 |

The hypothesis that there is more drinking among adolescents with long durations of exposure to alcoholics than among adolescents with less exposure was not supported. Three measures of drinking practices were not significantly different between groups. These were the frequency with which members of the two groups fell into the eight volume-variability (V-V) drinking categories (chi-square = 3.4, df = 5, p = .64), the number of times subjects had been drunk during their lifetimes (t= -1.28, p = .22), and the frequency with which subjects got drunk (chi-square = 7.3, df = 5, p = .20).

Severity of Alcohol Problems

The relationships between the dependent variables and severity of alcohol problems to which subjects were exposed, as measured by the CAST, were also assessed. Although CAST scores and exposure duration were

significantly correlated ($r$ = .57, $p$ < .001), their relationship leaves sufficient residual variance (67%) to justify conducting additional analyses based on exposure severity.

A multiple regression indicated the CAST scores were significantly related to the confounding demographic and background variables ($R$ = .59, $p$ = .02). The partial correlation between CAST scores and FES Family Conflict ($r$ = .58, $p$ = .02) accounted for almost all of the variance in the multiple regression. As with the test of exposure duration, this result indicates that the presence of an alcoholic parent is accompanied by discord within the family. To remain consistent with the analyses of exposure duration, family conflict was not partialled out of the analyses based on the CAST; therefore, this confound must be taken into account in interpreting the results.

Severity of parental alcohol problems was marginally related to several alcohol expectancies (see Table 4). Although the CAST was not correlated with Scale 3 of the AEQ-A, CAST scores were significantly related to the six other AEQ-A scales in a multiple regression. However, a subsequent forward stepwise multiple regression found no significant simple correlations. Similar to the results of exposure duration, the expectancies with marginal relationships with the CAST were Scale 2 (Changes in Social Behavior) and Scale 4 (Sexual Enhancement).

Table 4

Correlations Between CAST Scores and Dependent Variables

| Dependent Variables | Statistic |
|---|---|
| AEQ-A Scale 3 (Cognitive and Motor Enhancement) | $r = .17$ |
| All Other AEQ-A Scales | $R = .49^{**}$ |
| AEQ-A Scale 2 (Changes in Social Behavior) | $r = .37^{*}$ |
| AEQ-A Scale 4 (Sexual Enhancement) | $r = .37^{*}$ |
| V-V | $R^{a} = .40^{*}$ |

$^{*}p < .10$. $^{**}p < .05$

[a]Based on discriminant analysis.

Severity was also not strongly related to drinking patterns. A discriminant analysis which predicted Volume-Variability (V-V) drinking classifications of 55 subjects from their CAST scores was marginally significant (Table 4). A second discriminant analysis using CAST scores to predict frequency with which adolescents became drunk was not significant ($r$ = .18, $p$ = .92). The correlation between the number of times subjects had been drunk and CAST scores was significant upon first examination ($r$ = .41, $p$ = .002), but the presence of an outlier, a 17-year-old female who claimed she had been intoxicated as many as 300 times, skewed the distribution and was largely responsible for the significant result. To correct for undue influence of this subject, the data on frequency of intoxication were transformed to ranks and analyzed with the Spearman's Rank-Difference Correlation, the nonparametric analog of a correlation. This test found that CAST scores were not significantly related to the number of times the adolescents had been drunk ($rho$ = .13, n.s.); this result is considered to more accurately describe the data.

Genetic Family History

A procedure similar to the one analyzing exposure duration was used for testing genetic family history. A MANOVA tested equivalence of the two groups of fifteen subjects in terms of demographics and background variables, namely exposure to alcoholics, gender, age, number of

families with which the subject had lived, Hollingshead score, Volume-Variability of drinking, and the three FES scales, Cohesion, Expressiveness, and Conflict. The assumption of homogeneity of the variance/covariance matrix was confirmed ($F(45,2368) = 1.055$, $p = .39$), which indicated that the results of this MANOVA could be validly interpreted. Groups were again found to be imperfectly matched on demographics and background (Wilks lambda = 0.480, $F(9,20.25) = 2.43$, $p = .046$). Follow-up tests (see Table 5) determined that the subjects with a genetic family history of alcoholism had higher Hollingshead scores, corresponding to lower SES. Results from tests between the genetic family history groups therefore could not be interpreted independent of SES.

The hypothesis that adolescents with a genetic family history of alcoholism would have stronger expectations of alcohol's ability to enhance cognitive and motor functioning was not supported (see Table 5). Genetic family history of alcoholism also did not influence scores on the other six AEQ-A scales (Wilks lambda = 0.910, with $F(6,23.5) = 0.39$, $p = .88$).

The three measures of drinking patterns were not different between groups. These were the frequency with which the members of the two groups fell into the V-V categories (chi-square = 3.6, $df = 2$, n.s.), the number of times subjects had been drunk during their lifetimes ($t =$

Table 5

Mean Scores (and Standard Deviations) for Genetic Family History Groups

| Measure | Genetic Family History: Positive | Genetic Family History: Negative | Statistic |
|---|---|---|---|
| Hollingshead | 35.3 (13.8) | 19.4 (10.6) | $F = 12.12^{*}$ |
| AEQ-A Scale 1 (Global Changes) | 6.8 (3.1) | 5.5 (4.3) | $F = 0.96$ |
| AEQ-A Scale 2 (Changes in Social Behavior) | 4.9 (3.3) | 4.9 (3.4) | $F = 0.00$ |
| AEQ-A Scale 3 (Cognitive and Motor Enhancement) | 0.5 (0.7) | 0.7 (0.7) | $t = 0.5$ |
| AEQ-A Scale 4 (Sexual Enhancement) | 3.5 (1.9) | 3.1 (2.4) | $F = 0.17$ |
| AEQ-A Scale 5 (Cognitive and Motor Impairment) | 21.2 (1.9) | 20.8 (2.8) | $F = 0.21$ |
| AEQ-A Scale 6 (Arousal) | 5.2 (2.0) | 4.5 (3.0) | $F = 0.50$ |
| AEQ-A Scale 7 (Relaxation and Tension Reduction) | 10.1 (2.7) | 8.7 (3.6) | $F = 1.31$ |

*$p < .005$

[a]For the $F$ tests, $df = 1,28$; for the $t$ test, $df = 28$.

-.62, p = .54) and the frequency with which subjects got drunk when they did drink (chi-square= 5.5, df = 4, p = .24).

Drinking Pattern and Alcohol Expectancies

Two discriminant analyses were used to determine the relationship between AEQ-A scale scores and drinking variables as summarized by Volume-Variability (V-V). When all seven AEQ-A scales were used in the classification model, classification error was reduced 54.2% from chance, with 34 of the 55 subjects placed correctly in their V-V classifications. Wilks Lambda for the overall model was .2972, which indicates that the relationship between alcohol expectancies and drinking patterns was significant ($F(6,48) = 18.92$, $p < .001$).

A second discriminant analysis was used to determine the best of the predictors from among the AEQ-A scales. Scale 2 (Changes in Social Behavior) and Scale 3 (Cognitive and Motor Enhancement) were selected to enter the equation by a forward stepwise procedure, with Scale 2 accounting for 41.6% of the variance ($F = 8.7$, $p < .0001$) and Scale 3 accounting for 17.6% ($F = 2.6$, $p = .046$). Together these two scales reduced classification error 43.3% over chance, with 30 out of 55 subjects correctly classified in V-V category.

## Discussion

Three of this study's hypotheses were corroborated, two received marginal support, and three were not substantiated. As expected, exposure to alcoholics was related to alcohol expectancies in several ways. First, adolescents with long-term exposure to alcoholics had significantly stronger overall expectations of alcohol's reinforcing effects; similarly, the severity of the alcohol problems to which adolescents were exposed was significantly related to the combined alcohol expectancies. Second, subjects with long-term exposure had stronger expectations of alcohol's ability to enhance cognitive and motor functioning. Third, alcohol expectancies successfully classified adolescents according to drinking patterns; among the expectancies, the best predictors of drinking patterns were those measured by AEQ-A Scale 2 (Changes in Social Behavior) and Scale 3 (Cognitive and Motor Enhancement). There were tendencies for adolescents with long-term exposure to alcoholics to have stronger expectations of alcohol's ability to change social behavior (AEQ-A Scale 2) and induce cognitive and motor impairment (Scale 5). Exposure to severe parental drinking problems also tended toward a relationship with Scale 2, as well as with Scale 4 (Enhanced Sexual Functioning). Contrary to hypotheses, adolescents with a genetic family history of alcoholism did not have stronger alcohol expectancies than

adolescents without such a family history, nor did drinking patterns vary with genetic family history or with duration of exposure to alcoholics.

These findings extend the results of Brown, Creamer & Stetson (1987). In part, the previous study determined that adolescents with a family background of alcoholism had stronger expectations of alcohol's ability to enhance cognitive and motor functioning. The current study indicates that, as the previous authors suggested, the family factors involved in this difference between groups are environmental; the results do not support the hypothesis that alcohol expectancies are influenced by genetic family histories, independent of environment. Although a variety of potential confounds were controlled through matching, families with exposure to alcoholics had greater conflict, less cohesion and lower socioeconomic status than families without exposure to alcoholics. Therefore, the current study indicates that the Brown, Creamer & Stetson (1987) finding was a consequence of exposure to the environmental factors associated with alcoholism in the family, but cannot isolate the effects of exposure to an alcoholic from exposure to related environmental factors.

The value of this study's attempt to separate genetic family history from family environment lies in heuristics. If problem drinking can be prevented by controlling alcohol expectancies, then it is essential to determine the sources

of expectancies so that intervention at their foundations can be conducted. This study has provided an important step in this process by showing that the expectation that alcohol provides cognitive and motor enhancement is a function of family environment, and that, through this expectancy, families may influence drinking patterns of adolescents. If expectancies are to be modified or their sources determined, it would be advantageous for subsequent research to focus on specific components in the family environment.

The present results support the model of expectancies as mediators of drinking practices. The study demonstrates significant relationships between components of the mediation model, namely between alcohol expectancies and three variables: drinking patterns, duration of exposure to alcoholic family environments, and severity of the parents' drinking problems to which adolescents are exposed. There is also marginal support for the influence of an alcoholic family environment on expectations of cognitive and motor deterioration, which, in conjunction with expectations of cognitive and motor enhancement, indicates that the influence of the family on alcohol use and expectancies is as complex as the model contends. Therefore, the present results establish the importance of including family environment factors in models which depict influences on adolescent alcohol expectancies.

This study's findings of relationships between alcohol expectancies and drinking patterns also corroborate previous research. As in earlier work, (Christiansen & Brown, 1985, Christiansen & Goldman, 1983), the best predictors of adolescent drinking were expectations of changes in social behavior (AEQ-A Scale 2) and of cognitive and motor enhancement (AEQ-A Scale 3). A clue as to why these two scales are consistently good predictors of drinking may be derived from an item analysis of Scale 3. The item which most greatly differentiated the long- and short-term exposure groups was, "When talking with people, words come to mind easier after a few drinks of alcohol," which suggests that adolescents who are exposed to alcoholics learn that alcohol facilitates cognitive functioning in social situations. Conversely, those who have little exposure to alcoholics apparently do not perceive alcohol to be similarly useful. This datum, along with the consistent relationship between Scale 2 and drinking patterns found in prior research, imply that adolescents who drink are doing so in large part because they anticipate a variety of social benefits. Although Brown, Creamer & Stetson (1987) expected that parents would influence their adolescents' social expectancies less than would their children's teenaged peers, it seems that parents do provide some information on the social aspects of drinking. The next studies in this area might focus on what factors within families teach adolescents to

anticipate social benefits from alcohol use.

The present study demonstrated that expectations of alcohol's ability to produce changes in social behavior are consistently associated with family environment and with adolescent drinking; this finding indicates that ensuing studies may find alcohol-abusing parents' modeling of socialization practices to be a more important influence on their adolescents' alcohol expectancies than previous studies have suggested. As adolescents explore ways to develop social relationships that are like those of adults, they tend to model methods that are successful for their parents. Children whose parents consistently use alcohol in social situations are more likely to anticipate the benefits of alcohol use in their own social gatherings. The belief that their speech and socialization can be facilitated by alcohol probably motivates some adolescents to begin and continue drinking. Future studies may find that such expectancies are derived from observations of parents' alcohol use practices, particularly during social gatherings and other highly reinforcing circumstances.

Some limitations of this study should be noted. As previously mentioned, exposure to alcoholics was confounded with several environmental variables; therefore, the effects found in this study appear to originate from alcoholic family environments, but not necessarily from exposure to alcoholic models alone. Additional limitations

were the small numbers of subjects and the rather narrow range of drinking patterns in the sample. In combination with low power of some analyses, due to weak effects, the small sample precluded the interpretation of some trends which might have otherwise been significant. Finally, self-selection and screening restrictions may prevent this study's results from generalizing beyond the population described in the Method section of this paper.

In light of these limitations, different methodological strategies would be useful for exploring the effects of family on expectancies. First, eliminating the confounds between exposure to alcoholics and other environmental variables would provide more specificity about the sources of expectancies. To accomplish this, more rigorous matching of subjects might be used, although a perfectly-matched sample was not obtained for the present study and may be difficult to generate whenever groups which differ in exposure to alcoholics are compared. Another option would be to separately investigate the influences that family environmental variables, such as SES, family cohesion and family conflict, have on alcohol expectancies, while controlling for exposure to alcoholics. Although this method would support the hypothesis that exposure to parental drinking problems affects adolescent alcohol expectancies only by process of elimination, it would probably be easier to find appropriate subjects. The present study's nonsignificant and marginally significant

results might be reassessed with a more powerful design, perhaps including more subjects and a wider range of drinking practices. An alternative method of testing the mediation model, and probably the one that should be used next, is path analysis. The present study and previous research indicate that relationships between components of the model exist. It would be worthwhile to determine the strengths of all the relationships within the model through path analysis in order to further test the hypotheses that alcohol expectancies mediate drinking patterns and that specific family factors influence both adolescent drinking and expectancies.

An unresolved question is whether families affect adolescent alcohol expectancies through transmitting physiological characteristics that interact with alcohol to produce distinct effects and expectancies, as implied in the mediation model (Figure 1). If this effect does exist, it may not have been detected because genetic family history is not a sufficient paradigm for physiological structure, or because learning as a result of physiological reaction is not a strong effect. Further studies would benefit from more directly relating physiological reactions to alcohol to the effects people anticipate from alcohol. These might correlate AEQ scores with assays of liver enzymes (e.g. alcohol dehydrogenase) that are associated with alcohol metabolism, or with levels of prolactin and

cortisol, the production of which is influenced by alcohol to a degree depending on family history of alcoholism (Schuckit, 1984a; Schuckit, et al., 1983). Other research may compare the effects of environment and physiology on expectancies through family studies, such as adoption, twin, and concordance studies. However, even these more specific methods may find that environment has a greater effect on alcohol expectancies than does physiology. Such a finding would be in agreement with balanced placebo research which has found that instructional set is more important than actual alcohol content of drinks in determining various reactions to drinking (e.g. Abrams & Wilson, 1979; Brown, 1984; Marlatt et al., 1973).

The results of this study may have practical implications. Changing drinking patterns by altering alcohol expectancies has previously been suggested (Brown, Christiansen & Goldman, 1987; Brown, Goldman & Christiansen, 1985; Brown, Millar & Passman, 1988; Christiansen, Goldman & Inn, 1982). The present study and previous work have indicated that expectations of alcohol's ability to cause changes in social behavior and to enhance cognitive and motor functioning are consistently related to adolescent drinking patterns; consequently, these expectancies may be important targets for intervention in treating or preventing alcohol abuse. Teens who have had long-term exposure to alcoholics may be at risk for drinking problems of their own, partly because they learn

these two expectancies from their parents. If so, prevention and treatment programs might enhance outcome if they contradict these expectancies among at-risk adolescents.

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# Appendix A

## Telephone Screening Interview Form

PHONE SCREENING FORM 3 (April 12, 1987 version)
Date _____/_____/_____ Interviewer Name_____

Thank you for calling. We're doing a study on alcohol and families which is sponsored by the National Institute on Alcohol Abuse and Alcoholism. It's directed by Dr. Sandra Brown, a psychologist here at the VA and UCSD. We're comparing families that use alcohol to those that don't. We hope to use the results to help treatment programs be more successful.

First, how did you find out about our research project?:

We're looking for families with a teenager between the ages of 12 and 19 to take part in this study. Does your family have a teen between those ages?

Yes____ How old is your teen?_____

No_____ We appreciate your interest in calling, but we're looking for families with teenagers and so we won't be able to include yours. If you know of other families that might fit, please let them know about about our study. (STOP INTERVIEW HERE)

The study involves a private and confidential interview with a teen and a parent, plus tests of thinking and memory for the teenager. The parent interviews take about 1 1/2 hours, and the teens' interview and testing take about 4 hours. We pay $10.00 to each person we interview. After 6 months and after a year we do another interview which you'll also be paid for.

Do you have any questions so far? I'll be asking you some sensitive questions. If you'd rather not answer, you may skip any question or stop the interview.

To see if you fit into one of our groups, let me ask you some questions about alcohol use and your family. When I say family, I mean anyone related to your teen by blood or by marriage, including any step-family. So that includes you and your teen, too. Has anyone in the family ever had:

a. Marital separation or divorce because of their drinking

b. Been laid off from work or fired because of their drinking

c. Two or more drunk driving arrests because of their drinking

d. Two or more arrests for public intoxication, drunk and disorderly conduct, or a similar charge, because of their drinking

e. A doctor say alcohol had harmed their health

f. Been treated in an alcohol treatment program [IF YES, ASK YEARS SOBER]

g. Attended Alcoholics Anonymous or some other self-help group [IF YES, ASK YEARS SOBER]

h. Been suspended or expelled from school 2 or more times because of their drinking

i. Had other problems because of their drinking, such as isolating themselves from the rest of the family, causing family arguments or fights, being drunk a lot, drinking a lot throughout the day, mood changes (good or bad). [THIS DOESN'T COUNT IN DETERMINING ALCOHOLISM]

| | Who? | Problems | Yrs lived w/ | Teen's Ages | Visit | Teen's Ages | Yrs sober |
|---|---|---|---|---|---|---|---|
| 1. | | | | | | | |
| 2. | | | | | | | |
| 3. | | | | | | | |
| 4. | | | | | | | |

5._____ _____ _____ _____ ____ _____ _____

6._____ _____ _____ _____ ____ _____ _____

EXPOSURE (YEARS)

| Age (years) | 75% | 37.5% | 25% | 10% | Age | 75% | 37.5% | 25% | 10% | Age | 75% | 37.5% | 25% | 10% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19 | 14.25 | 7.12 | 4.75 | 1.9 | 16 | 12 | 6.00 | 4 | 1.6 | 13 | 9.75 | 4.88 | 3.25 | 1.3 |
| 18 | 13.5 | 6.75 | 4.5 | 1.8 | 15 | 11.25 | 5.62 | 3.75 | 1.5 | 12 | 9 | 4.50 | 3 | 1.2 |
| 17 | 12.75 | 6.38 | 4.25 | 1.7 | 14 | 10.5 | 5.25 | 3.5 | 1.4 | | | | | |

EXPOSURE (MONTHS)

| Age (yrs/mnths) | 75% | 37.5% | 25% | 10% | Age (yrs/mnths) | 75% | 37.5% | 25% | 10% | Age (yrs/mnths) | 75% | 37.5% | 25% | 10% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19/228 | 171 | 85.5 | 57 | 22.8 | 16/192 | 144 | 72 | 48 | 19.2 | 13/156 | 117 | 58.5 | 39 | 15.6 |
| 18/216 | 162 | 81 | 54 | 21.6 | 15/180 | 135 | 67.5 | 45 | 18 | 12/144 | 108 | 54 | 36 | 14.4 |
| 17/204 | 153 | 76.5 | 51 | 20.4 | 14/168 | 126 | 63 | 42 | 16.8 | | | | | |

DECISION CRITERIA

Exposure

(All criteria must be met)

| Yes | No | Fam. Hist. Alcoholism |
|---|---|---|
| 1. Alcoholism in biological parent<br>2. ≥ 75% exposure to alcoholics (visits count for up to 1/2) (if 50 days/year or 4 days/month)<br>A | 1. Alcoholism in biological parent<br>2. ≤ 10% exposure to alcoholics<br>3. Not lived with alcoholic past age 2 for more than one year<br>B | Yes |
| 1. No alcoholism in bio relatives<br>2. ≥ 75% exposure to alcoholics (visits count for up to 1/2) (if 50 days/year or 4 days/month)<br>C | 1. No alcoholism in bio relatives<br>2. ≤ 10% exposure to alconolics<br>3. Not lived with alcoholic past age 2 for more than one year<br>D | No |

Maybe

(Either one makes participation uncertain)

| | |
|---|---|
| 1. > 1 nonparent alcoholic relative | 2. ≤ 25%, >10% exposure to alcoholics |

Not Eligible

(Any one excludes participation)

| |
|---|
| 1. No alcoholic parent, and Alcoholism in only 1 nonparent relative |
| 2. < 75% and > 25% exposure |
| 3. ≤ 25% exposure to alcoholics, and lived with an alcoholic past age 2 for more than 1 year |

IF A, B, C, or D, SAY:

Fine, it looks as if your family will fit into our study. We can schedule a time for your teen and you or your spouse to come in for an interview or mail you some information so you can discuss it with your family first.

IF MAYBE, SAY

Your family may fit into our study. May I call you back after I talk to my supervisor?

____Yes ____No (IF NO, SAY: Thank you for your interest in the project. If you know of other families who might also be interested, please let them know about it.)

IF NOT ELIGIBLE, SAY
It doesn't look as if your family will fit into this study.
If you fit into future studies, may we call you? ____Yes (** GET PHONE #)
____No

Thank you for your interest in the project. If you know of other families who might also be interested, please let them know about it.

____ Schedule interview (**GET ADDRESS) SAY: We'd like to send your teen some questionnaires to fill out before the interview. I'll mail them today, so you should get them soon. If your teen has any problems understanding them, s/he can bring them to the interview and we'll help fill them out.

____ Send information letter only (** GET ADDRESS & PHONE)
SAY: May we call back in a few days for your decision?

____ Not interested in the project / Excluded (CIRCLE ONE)

** Name _____

** Address _____

_____

Phone: Home (619) _____ Work (619) _____

APPOINTMENT

| subject's name & age | when | where |
|---|---|---|
| | | |
| | | |
| | | |

Say: Thank you very much for calling.
We look forward to seeing you on _____. (CONFIRM DATE AND TIME)

## Appendix B

## Alcohol Expectancy Questionnaire - Adolescent Version

# Appendix C

## Adolescent Interview

FID#_____ Date_____

INTERVIEW WITH ADOLESCENT IN TREATMENT PROGRAM

**Introduce yourself once again and remind the adolescent of your name.**

This research project is designed to look at teenagers and families with drug or alcohol problems. I will be asking you questions about your own thoughts, beliefs and experiences with alcohol and other drugs.

Whatever we talk about here is confidential. No one in your family or the treatment program will know what you say to me. Another interviewer will be working with your parents and we will store your information separately, without your name attached to it. We do these things so that you can be honest with us when you share information and not worry that anyone else will see what you have said here. Do you understand that what you say to me will not be in your records and will not be shared with any of your family or the treatment program staff?

Remember, we will have an additional session with you (confirm scheduled date)_____. Also, we will be interviewing you again in 6 months and again at 12 months, for which you will receive $25 and $50 payments.

Thank you for helping us with this project. Before we begin, do you have any questions?

Name_____ Interviewer_____

Address_____ M____ F____

Phone_____

Parents' names_____
Mom (bio___, st___, # yrs lived w/___) Dad (bio___, st___, # yrs lived w/___)

Address_____

Phone (home)_____ (work)_____

Someone else who will know where you can be reached (relationship_____)

_____

Address_____

Phone (home)_____ (work)_____

Date of admission to TP_____

| | Current | | Relationship |
|---|---|---|---|
| Bro/Sis | _____ | Age_____ | _____ |
| | _____ | _____ | _____ |
| | _____ | _____ | _____ |
| | _____ | _____ | _____ |
| | _____ | _____ | _____ |

revised 1/12/87

FID#_____ Sex ___M ___F Date_____

(NOTE TO INTERVIEWER: Score all missing data ('don't know) answers as 9, 99, or 999 throughout interview.) FIRST SOME BACKGROUND QUESTIONS:

1. How old are you? _____years. ___ ___
   Birthdate_____

2. How many grades have you completed in school? (Do not count current grade.) ___ ___

3. Are you currently in school? ___
   1) Yes, public
   2) Yes, private (Oracle, etc.)
   3) Yes, home study
   4) No, summer/vacation
   5) No, graduated
   6) No, quit
   7) No, suspended/expelled

4. If you are not in school, is it because of drugs/alcohol? ___
   0) Not applicable
   1) Not alcohol/drug related
   2) Alcohol/drug related

5. Have you had any special classes in school? ___
   0) No, none
   1) Yes, behavior disorder
   2) Yes, learning disability
   3) Yes, mental retardation/EMH classroom
   4) Yes, gifted program (MGM)
   5) Other (e.g., speech, hearing, remedial reading, math)_____
   (For more than one, enter first special class attended)

6. Have you been held back for a grade/year? ___ ___
   00) No
   If yes: grade first held back_____

7. Have you been advanced a grade/year? ___ ___
   00) No
   If yes: grade first advanced_____

8. What kind of grades were you getting before treatment (what was your grade point average, GPA)? ___ ___
   01) Mostly As
   02) As and Bs
   03) Mostly Bs
   04) Bs and Cs
   05) Mostly Cs
   06) Cs and Ds
   07) Mostly Ds
   08) Ds and Fs
   09) Mostly Fs

9. Do you have a job (prior to treatment -Score most hours)? ___
   1) Never had a job
   2) No, not now
   3) Yes, under 5 hours/week
   4) Yes, 5-10 hours/week
   5) Yes, 11-20 hours/week
   6) Yes, more than 20 hours/week

10. Who were you living with before you came into treatment? ___ ___
    1) Biological parents
    2) Adoptive parents
    3) One parent
    4) Biological mother and step-father
    5) Biological father and step-mother
    6) Other relatives (not parents)
    7) Foster home
    8) Temporary setting (group home)
    9) Institution (hospital, rehabilitation center)
    10) Transient (streets, crash pad, shooting gallery)
    11) Other_____

11. Are your parents (whomever the child perceives as parents) married? ___
    1) Single
    2) Living with partner, unmarried
    3) Married
    4) Separated
    5) Divorced or widowed

12. How many biological (same mother and father as you) brothers and sisters do you have in your current family--that is, living in the same household? ___ ___

13. How many step/half or adoptive brothers and sisters do you have in your current family (that is, living in the same household)? ___ ___

14. Where do you fit in the order of the children in your biological family? (00 = only child) ___ ___

15. How many different families have you lived with (not just changing houses)? _____Number ___ ___

16. What is your primary religious background? ___ ___
    1) None 4) Lutheran 7) Catholic
    2) Baptist 5) Episcopalian 8) Jewish
    3) Methodist 6) Other protestant 9) Mormon
    10) Other_____

17. Do you currently practice your religion? ___
    0) Never or inappropriate
    1) No, not at the present time
    2) Yes, but not regularly
    3) Yes, regularly attend services or participate in religious ceremonies

18. What is your ethnic background? (If mixed) Which ethnic group do you most identify with? ___ ___
    1) Mexican American 7) French
    2) AfroAmerican 8) Other European
    3) American Indian 9) Portugese/Filipino/Spanish
    4) Oriental 10) No ethnic identity/American
    5) English/Irish/Welsh/Scottish 11) Other_____
    6) Italian

19. Do you date (before TP)? How often? ___
    0) N/A. never dated
    1) No, not now
    2) Yes, only in group activities
    3) Yes, rarely (once very few months)
    4) Yes, occasionally (every couple of weeks)
    5) Yes, regularly (every week)
    6) Yes, has steady girl/boyfriend

20. Are you involved in any sports, clubs, recreational activities or hobbies? ___
    0) No
    1) Yes, rarely (less than once/month)
    2) Yes, occasionally (once/month)
    3) Yes, regularly (at least once/week)
    (Note hobbies, activities_____)

NOW FOR SOME QUESTIONS ABOUT YOUR DRINKING AND DRUG USE HABITS:

21. What was the major substance causing you to enter this treatment program? _____ ___
    0) Not appropriate
    1) Alcohol
    2) Drugs (include marijuana)
    3) Both alcohol and drugs

22. Did you voluntarily enter this program? ___
    0) Not appropriate
    1) Wanted to go
    2) Went somewhat reluctantly
    3) Parent(s)/self made mutual decision
    4) Parent(s) wanted me to go
    5) Agency required me to go

23. Have you ever seen a professional (psychiatrist social worker, psychologist, clergy, or counselor) for alcohol or drug abuse? ___ ___
    00) No
    If, yes, number of sessions_____

24. Have you been in an inpatient treatment program for alcohol or drugs (before this program)? ___
    0) No
    If yes, number of programs_____

25. Do you think you might have a <u>problem with alcohol</u> ___ ___
    If so, for how long?
    00) No problem
    If yes, number of months_____

26. Do you think you might have a <u>problem with drugs</u> (other than alcohol)? If so, for how long? ___ ___
    00) No problem
    If yes, number of months_____

27. What would you say is the major reason for your (**Controls:** a teen with a problem) drinking/drug problem? ___ ___

00) Not appropriate
01) Enhance positive state, (get high/stoned for pleasure)
02) Boredom
03) Peer pressure
04) Habit
05) Family problems
06) School problems
07) Stress/personal problems
08) Family history of drug/alcohol abuse
09) Other_____
_____

28. Have you ever seen a professional (psychiatrist, social worker, psychologist, clergy or counselor) for emotional or psychological problems? ___ ___

00) No
If yes, how many sessions_____
Specify problem_____

29. Have you ever been hospitalized for nondrug/nonalcohol or psychological problems? ___

0) No
If yes, how many times_____
Specify problem_____

THERE ARE A NUMBER OF PROBLEMS YOUR FAMILY MIGHT HAVE BECAUSE OF THEIR OWN DRINKING. HAS ANYONE IN YOUR FAMILY LIVING WITH YOU OR NOT, (FATHER, MOTHER, BROTHER, SISTER, STEPFATHER, STEPMOTHER, STEPSIBLINGS, AUNTS, UNCLES, GRANDPARENTS, ETC.) HAD:

a) Marital separation or divorce because of their drinking?
b) Been laid off from work or fired because of their drinking?
c) Two or more drunk driving arrests because of their drinking?
d) Two or more arrests for public intoxication, drunk and disorderly conduct, etc., because of their drinking?
e) Doctor said alcohol had harmed their health?
f) Been treated in an alcohol treatment program?
g) Been suspended/expelled from school 2 or more times because of their drinking?
h) Had other problems because of their drinking, such as isolating themselves from the rest of the family, causing family arguments/fights, being drunk a lot, drinking a lot throughout the day, mood changes (good or bad)?

INTERVIEWER: ask about the following family members: spouse, self, biological parents, step-parents (there may be more than one), biological, step- and half-children, biological, step- and half- sibblings. When asking about aunts, uncles, cousins, and grand- parents, BE SURE to find out which side of the family the relatives are on. When interviewing ONE parent only, make sure to find out about spouse's side of family. GET AS MUCH INFORMATION AS POSSIBLE.

| Name/ relationship | age of 1st prob. | how old now | # years lived w/teen | # years & # times/yr visited teen | which probs. (be specific) | Dx |
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THERE ARE A NUMBER OF PROBLEMS YOUR FAMILY MIGHT HAVE BECAUSE OF THEIR OWN DRUG USE. HAS ANYONE IN YOUR FAMILY LIVING WITH YOU OR NOT, (FATHER, MOTHER, BROTHER, SISTER, STEPFATHER, STEPMOTHER, STEPSIBLINGS, AUNTS, UNCLES, GRANDPARENTS, ETC.) HAD:

a) Marital separation or divorce because of their drug use?
b) Been laid off from work or fired because of their drug use?
c) Two or more arrests because of their drug use (other than marijuana)?
d) Doctor said drugs had harmed their health?
e) Used drugs IV (by needle)?
f) Been treated in a drug treatment program?
g) Been suspended/expelled from school 2 or more times because of their drug use?
h) Had other problems because of their drug use, such as isolating themselves from the rest of the family, causing family arguments/ fights, being high a lot, using drugs a lot throughout the day, mood changes (good or bad)?

INTERVIEWER: ask about the following family members: spouse, self, biological parents, step-parents (there may be more than one), biological, step- and half-children, biological, step- and half- sibblings. When asking about aunts, uncles, cousins, and grand- parents, BE SURE to find out which side of the family the relatives are on. When interviewing ONE parent only, make sure to find out about spouse's side of family. GET AS MUCH INFORMATION AS POSSIBLE.

| Name/ Relationship | age of 1st prob. | how old now | # years lived w/teen | # years & # times/yr visited teen | which probs. (be specific) | Dx |
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NOTE: Score your interpretation of Family History as follows:

52. Family History of Alcoholism (Blood Relatives only) ___
    0) No
    1) Probable alcoholism
    2) Definite alcoholism

53. Family History of Drug Abuse (Blood Relatives only) ___
    0) No
    1) Probable drug abuse
    2) Definite drug abuse

54. Number of years exposed to alcohol abuse model ___ ___

55. Number of years exposed to drug abuse model ___ ___

INTERVIEWER NOTE: The following questions about parents refer to whomever the adolescent perceives to be his/her parents.

56. Compared to parents of your friends, how strict would you say your parents are with you? ___
    1) A lot less strict
    2) Less strict
    3) About the same
    4) More strict
    5) A lot more strict

57. If you act in a way your parents disapprove of, are they likely to make things tough for you? ___
    1) Hardly ever
    2) Not too often
    3) Often
    4) Very often
    5) Almost always

58. Would you say that your parents and your friends are really pretty much in agreement about the things you think are important in life? ___
    1) No agreement at all
    2) Some agreement
    3) A fair amount of agreement
    4) A lot of agreement
    5) Almost complete agreement

59. Would you say that your parents and your friends think pretty much the same way about what you should be getting out of being in school? ___
    1) No agreement at all
    2) Some agreement
    3) A fair amount of agreement
    4) A lot of agreement
    5) Almost complete agreement

60. If you had a serious decision to make, like whether or not to continue in school, or whether or not to get married, whose opinions would you value most—your parents or your friends? ___
    1) Parents most
    2) Parents/friends equally
    3) Friends most

61. With regard to your present outlook on life--what's important to do and what's important to be--whose views have had a greater impact on you, your friends' or your parents'? ___
    1) Parents most
    2) Parents/friends equally
    3) Friends most

62. How do you think your parents (or your family) feel about boys your age drinking? ___
    1) Strongly approve
    2) Approve
    3) Don't care one way or the other
    4) Disapprove
    5) Strongly disapprove
    6) Bipolar (one parent approves one parent disapproves)

63. How do you think your parents (or your family) feel about girls your age drinking? ___
    1) Strongly approve
    2) Approve
    3) Don't care one way or the other
    4) Disapprove
    5) Strongly disapprove
    6) Bipolar (one parent approves one parent disapproves)

64. How do most of the people you hang around with feel about kids your age drinking? ___
    1) Strongly approve
    2) Approve
    3) Don't care one way or the other
    4) Disapprove
    5) Strongly disapprove
    6) Does not apply

65. Have you ever felt that other kids were "putting pressure" on you to drink? ___
    1) Never
    2) Once or twice
    3) Several times
    4) Often (less than once/week)
    5) Regularly (at least weekly)

66. Have you ever felt that other kids were "putting pressure" on you to use marijuana and/or other drugs? ___
    1) Never
    2) Once or twice
    3) Several times
    4) Often (less than once/week)
    5) Regularly (at least weekly)

67. How would you classify your friends' drinking behavior on an average? ___
    1) Most are nondrinkers
    2) Most drink small amounts
    3) Most drink medium amounts
    4) Most drink large amounts
    5) Most are problem drinkers
    6) Most are alcoholics
    7) Most are former alcoholics/ currently abstaining

68. On an average, how would you classify your friends' drug use behavior? ___
    1) Most are nondrug users
    2) Most use small amounts
    3) Most use medium amounts
    4) Most use large amounts
    5) Most are problem users
    6) Most are addicts
    7) Most are former addicts/ currently abstaining

69. At this point, how effective or useful do you think the treatment program is that you are in? (Nonabusers: how effective or useful do you think a treatment program for teenagers would be?) ___
    1) Not at all effective/useful
    2) Not very effective/useful
    3) Cannot tell
    4) Somewhat effective/useful
    5) Very effective/useful

70. On a scale from 1 to 10, how likely do you think it is that you (or a teenager who abused alcohol) will stop <u>drinking alcohol</u> after you (s/he) are done with the program? ___ ___
    01 = won't stop
    10 = stop for sure

71. On a scale from 1 to 10, how likely do you think it is that you (or a teenager who used drugs) will stop <u>using drugs</u> after you (s/he) are done with the program? ___ ___
    01 = won't stop
    10 = stop for sure

72. Do you think you (or a teenager who abused alcohol) could ever learn to drink in a controlled/moderated fashion? ___
    1) Definitely no
    2) Probably no
    3) Cannot tell
    4) Probably yes
    5) Definitely yes

73. Do you think you (or a teenager who abused drugs) could ever learn to use drugs in a recreational (controlled) fashion? ___
    1) Definitely no
    2) Probably no
    3) Cannot tell
    4) Probably yes
    5) Definitely yes

INTERVIEWER - BEFORE BEGINNING THE NEXT SECTION, RATE THE ADOLESCENT ON THE FOLLOWING DIMENSIONS:

74. How accurate (factual, truthful) do you feel the adolescent's responses are? ___
    1) Very accurate
    2) Reasonably accurate
    3) Cannot tell
    4) Somewhat inaccurate
    5) Very inaccurate

75. How much denial [agreement between verbal statements and affect and/or degree of minimizing <u>known</u> problem(s)] is apparent in the adolescent's responses thus far? ___
    1) No denial - very open
    2) Occasional denial of problems
    3) Moderate denial of problems
    4) Significant denial of problems
    5) Extreme denial of problems

ADOLESCENT SCREENING FORM

Please answer the following questions concerning your (or your child's) medical history:

| | | Yes | No |
|---|---|---|---|
| 1. | Do you have: Diabetes | ____ | ____ |
| | Cancer | ____ | ____ |
| | Meningitis | ____ | ____ |
| | Encephalitis | ____ | ____ |
| | Dementia | ____ | ____ |
| | Metabolic encephalopathy | ____ | ____ |
| | Cerebral Aneurysm | ____ | ____ |
| | Poliomyelitis | ____ | ____ |
| | Multiple Sclerosis | ____ | ____ |
| | Hydrocephalus | ____ | ____ |
| | Cerebral Palsey | ____ | ____ |
| | Brain tumors | ____ | ____ |
| | Epilepsy | ____ | ____ |
| 2. | Have you ever had any head trauma or injury? | ____ | ____ |

If so, explain: _____

# Appendix D

## Parent Interview

PID#_____ Date_____

INTERVIEW WITH PARENT OF ADOLESCENT IN TREATMENT PROGRAM

**Introduce yourself; remind the parent of your name.**

This research project is designed to look at teenagers and families with drug or alcohol problems. I will be asking you questions about your own thoughts, beliefs and experiences with alcohol and other drugs.

Whatever we talk about here is confidential. No one in your family or the treatment program will know what you say to me. Another interviewer will be working with your teenager and spouse and we will store your information separately, without your name attached to it. We do these things so that you can be honest with us when you share information and not worry that anyone else will see what you have said here. Do you understand that what you say to me will not be in your records and will not be shared with any of your family or the treatment program staff?

Remember, we will be interviewing you again in 6 months and again at 12 months, for which you will receive $10 and $20 payments. After the 12 month follow-up, at your request we will provide you with feedback regarding the improvement in your child's neuropsychological skills and abilities.

Thank you for helping us with this project. Before we begin, do you have any questions?

Name_____ Interviewer_____

Address_____

Phone (home)_____ (work)_____

Someone else who will know where you can be reached (relationship_____)

_____

Address_____

Phone (home)_____ (work)_____

Date of admission to TP_____

Your current family consists of:

| | Name | Age | Relationship |
|---|---|---|---|
| Spouse/partner | _____ | _____ | _____ |
| Children | _____ | _____ | _____ |
| | _____ | _____ | _____ |
| | _____ | _____ | _____ |
| | _____ | _____ | _____ |
| | _____ | _____ | _____ |

revised 1/14/87

FID #_____ Sex____M ___F Date_____

INTERVIEWER NOTE: All missing data (don't know) should be coded 9, 99, or 999.
FIRST SOME BACKGROUND QUESTIONS:

*. What relation are you to _____? ___
1) Biological parent
2) Stepparent
3) Parental figure (living in household, not married)
4) Legal relative/guardian
5) Foster parent
6) Adoptive parent

*. How long have you lived with _____? ___ ___
(Code exact number of years.)

2. How many grades has s/he completed in school? (Do not count current grade.) ___ ___

3. Is s/he currently in school? ___
1) Yes, public
2) Yes, private (Oracle, etc.)
3) Yes, home study
4) No, summer/vacation
5) No, graduated
6) No, quit
7) No, kicked out

4. If s/he is not in school, is it because of drugs/alcohol? ___
0) Not applicable
1) Not alcohol/drug related
2) Alcohol/drug related

5. Has s/he had any special classes in school? ___
0) No, none
1) Yes, behavior disorder
2) Yes, learning disability
3) Yes, mental retardation/ERM classroom
4) Yes, gifted program (MGM)
5) Other (e.g., speech, hearing)_____
(For more than one, enter first special class attended)

6. Has s/he been held back for a grade/year? ___ ___
00) No
Yes: grade first held back_____

7. Has s/he been advanced a grade/year? ___ ___
00) No
Yes: grade first advanced_____

8. What kind of grades was s/he getting (what was the grade point average, GPA)? ___ ___
01) Mostly As
02) As and Bs
03) Mostly Bs
04) Bs and Cs
05) Mostly Cs
06) Cs and Ds
07) Mostly Ds
08) Ds and Fs
09) Mostly Fs

9. Does s/he have a job (prior to treatment)? ___
   1) Never had a job
   2) No, not now
   3) Yes, under 5 hours/week
   4) Yes, 5-10 hours/week
   5) Yes, 11-20 hours/week
   6) Yes, more than 20 hours/week

10. Who was s/he living with before s/he came into treatment? ___ ___
   01) Biological parents
   02) Adoptive parents
   03) One parent
   04) Biological mother and step-father
   05) Biological father and step-mother
   06) Other relatives (not parents)
   07) Foster home
   08) Temporary setting (group home)
   09) Institution (hospital, rehabilitation center)
   10) Transient (streets, crash pad, shooting gallery)
   11) Other_____

11. What is your current marital status? ___
   1) Single
   2) Living with partner, unmarried
   3) Married
   4) Separated
   5) Divorced or widowed

12. How many biological (same mother and father as _____) ___ ___
   brothers and sisters does _____ have in your current
   family--that is, living in the same household?

13. How many step/half or adoptive brothers and sisters ___ ___
   does _____ have in your current family
   (that is, living in the same household)?

14. Where does _____ fit in the order of the children in your ___ ___
   biological family? (00 = only child)

15. How many different families has _____ lived with (not just ___ ___
   changing houses)? _____Number.

16* What is your primary religious background? ___ ___
   01) None
   02) Baptist
   03) Methodist
   04) Lutheran
   05) Episcopalian
   06) Other protestant
   07) Catholic
   08) Jewish
   09) Morman
   10) Other_____

17* Do you currently practice your religion? ___
   0) Never or inappropriate
   1) No, not at the present time
   2) Yes, but not regularly
   3) Yes, regularly attend services or participate in
      religious ceremonies

** What is your current occupation?_____
(INTERVIEW NOTE: Be specific about position, e.g. size of company, number of people supervise, etc. This will be scored using the HOLLINGSHEAD SCALE at time of composite)

** What is your approximate salary? ___
1) To $6,000
2) $6,000 to 10,000
3) 10,000 to 25,000
4) 25,000 to 35,000
5) 35,000 to 50,000
6) 50,000 to 100,000
7) Over 100,000

** How much education have you had? ___ ___
(Code exact number of years)

** What is your spouse's (_____ parent) current occupation?_____
(See note above: be specific)

** What is his/her approximate salary? ___
1) To $6,000
2) $6,000 to 10,000
3) 10,000 to 25,000
4) 25,000 to 35,000
5) 35,000 to 50,000
6) 50,000 to 100,000
7) Over 100,000

** How much education has your spouse (_____parent) had? ___ ___
(Code exact number of years)

** HOLLINGSHEAD SCORE: ___ ___

(INTERVIEWER NOTE: * numbers coded at end of composite sheet)

18*. What is your ethnic background? (If mixed) Which ethnic group do you most identify with? ___ ___
01) Mexican American
02) AfroAmerican
03) American Indian
04) Oriental
05) English/Irish/Welsh/Scottish
06) Italian
07) French
08) Other European
09) Portugese/Filipino/Spanish
10) No ethnic identity/American
11) Other_____

20. Is _____ involved in any sports, clubs, recreational activities or hobbies? ___
0) No
1) Yes, engage rarely (less than once/month)
2) Yes, engage occasionally (once/month)
3) Yes, engage regularly (at least once/week)
(Note hobbies, activities_____)

NOW FOR SOME QUESTIONS ABOUT _____ DRINKING AND DRUG USE HABITS:

22. Did s/he voluntarily enter this program? ___
0) Not appropriate
1) Wanted to go
2) Went somewhat reluctantly
3) Parent(s)/child made mutual decision
4) Parent(s) wanted child to go
5) Agency required child to go

23. Has _____ ever seen a professional (psychiatrist, social worker, psychologist, clergy, or counselor) for alcohol or drug abuse? ___ ___
00) No
Yes, number of sessions_____

24. Has s/he been in an inpatient treatment program for alcohol or drugs before? ___
    0) No
    Yes, number of programs_____

25. Do you think s/he might have a problem with alcohol? ___ ___
    If so, for how long?
    00) No problem
    Yes, number of months_____

26. Do you think s/he might have a problem with drugs (other than alcohol)? If so, for how long? ___ ___
    00) No problem
    Yes, number of months_____

27. What would you say is the major reason for _____'s drug/drinking problem? ___ ___
    00) Not appropriate
    01) Enhance positive state (get high/stoned)
    02) Boredom
    03) Peer Pressure
    04) Habit
    05) Family problems
    06) School problems
    07) Stress/personal problems
    08) Family history of drug/alcohol abuse
    09) Other_____

28. Has _____ ever seen a professional (psychiatrist, social worker, psychologist, clergy or counselor) for emotional or psychological problems? ___ ___
    00) No
    If yes, how many sessions?_____
    Specify problem_____

29. Has s/he ever been hospitalized for nondrug/nonalcohol emotional or psychological problems? ___
    0) No
    If yes, how many times_____
    Specify problem_____

THERE ARE A NUMBER OF PROBLEMS YOUR FAMILY MIGHT HAVE BECAUSE OF THEIR OWN DRINKING. HAS ANYONE IN YOUR FAMILY LIVING WITH YOU OR NOT, (FATHER, MOTHER, BROTHER, SISTER, STEPFATHER, STEPMOTHER, STEPSIBLINGS, AUNTS, UNCLES, GRANDPARENTS, ETC.) HAD:

a) Marital separation or divorce because of their drinking?
b) Been laid off from work or fired because of their drinking?
c) Two or more drunk driving arrests because of their drinking?
d) Two or more arrests for public intoxication, drunk and disorderly conduct, etc., because of their drinking?
e) Doctor said alcohol had harmed their health?
f) Been treated in an alcohol treatment program?
g) Been suspended/expelled from school 2 or more times because of their drinking?
h) Had other problems because of their drinking, such as isolating themselves from the rest of the family, causing family arguments/fights, being drunk a lot, drinking a lot throughout the day, mood changes (good or bad)?

INTERVIEWER: ask about the following family members: spouse, self, biological parents, step-parents (there may be more than one), biological, step- and half-children, biological, step- and half- sibblings. When asking about aunts, uncles, cousins, and grand- parents, BE SURE to find out which side of the family the relatives are on. When interviewing ONE parent only, make sure to find out about spouse's side of family. GET AS MUCH INFORMATION AS POSSIBLE.

| Name/ Relationship | age of 1st prob. | how old now | # years lived w/teen | # years & # times/yr visited teen | which probs. (be specific) | Dx |
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THERE ARE A NUMBER OF PROBLEMS YOUR FAMILY MIGHT HAVE BECAUSE OF THEIR OWN DRUG USE. HAS ANYONE IN YOUR FAMILY LIVING WITH YOU OR NOT, (FATHER, MOTHER, BROTHER, SISTER, STEPFATHER, STEPMOTHER, STEPSIBLINGS, AUNTS, UNCLES, GRANDPARENTS, ETC.) HAD:

a) Marital separation or divorce because of their drug use?
b) Been laid off from work or fired because of their drug use?
c) Two or more arrests because of their drug use (other than marijuana)?
d) Doctor said drugs had harmed their health?
e) Used drugs IV (by needle)?
f) Been treated in a drug treatment program?
g) Been suspended/expelled from school 2 or more times because of their drug use?
h) Had other problems because of their drug use, such as isolating themselves from the rest of the family, causing family arguments/ fights, being high a lot, using drugs a lot throughout the day, mood changes (good or bad)?

INTERVIEWER: ask about the following family members: spouse, self, biological parents, step-parents (there may be more than one), biological, step- and half-children, biological, step- and half- sibblings. When asking about aunts, uncles, cousins, and grand- parents, BE SURE to find out which side of the family the relatives are on. When interviewing ONE parent only, make sure to find out about spouse's side of family. GET AS MUCH INFORMATION AS POSSIBLE.

| Name/ Relationship | age of 1st prob. | how old now | # years lived w/teen | # years & # times/yr visited teen | which probs. (be specific) | Dx |
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NOTE: Score your interpretation of Family History as follows:

52. Family History of Alcoholism (Blood Relatives only) ___
    0) No
    1) Probable alcoholism
    2) Definite alcoholism

53. Family History of Drug Abuse (Blood Relatives only) ___
    0) No
    1) Probable drug abuse
    2) Definite drug abuse

54. Number of years exposed to alcohol abuse model ___ ___

55. Number of years exposed to drug abuse model ___ ___

INTERVIEWER NOTE: The following questions about parents refer to whomever the adolescent perceives to be his/her parents.

56* Compared to parents of _____'s friends, how strict would you say you are with your teenager? ___
    1) A lot less strict
    2) Less strict
    3) About the same
    4) More strict
    5) A lot more strict

60* If_____ had a serious decision to make, like whether or not to continue in school, or whether or not to get married, whose opinions would s/he value most--yours or his/her friends? ___
    1) Parents most
    2) Parents/friends equally
    3) Friends most

61* With regard to _____'s present outlook on life--what's important to do and what's important to be--whose views have had a greater impact on your teenager, his/her friends' or yours'? ___
    1) Parents most
    2) Parents/friends equally
    3) Friends most

62* How do you and your spouse (or _____'s other parent) feel about boys _____'s age drinking? ___
    1) Strongly approve
    2) Approve
    3) Don't care one way or the other
    4) Disapprove
    5) Strongly disapprove
    6) Bipolar (one parent approves, one parent disapproves)

63* How do you and your spouse (or _____'s other parent) feel about girls _____'s age drinking? ___
    1) Strongly approve
    2) Approve
    3) Don't care one way or the other
    4) Disapprove
    5) Strongly disapprove
    6) Bipolar (one parent approves, one parent disapproves)

69. At this point, how effective or useful is the treatment program your teenager is in? (Nonabusing: how effective or useful do you think a treatment program for teenagers would be?) ___
    1) Not at all effective/useful
    2) Not very effective/useful
    3) Cannot tell
    4) Somewhat effective/useful
    5) Very effective/useful

70. On a scale from 1 to 10, how likely do you think it is that your teenager (or a teenager who abused alcohol) will stop drinking alcohol after (s/he) is done with the program? ___ ___
    1 = won't stop  10 = stop for sure

71. On a scale from 1 to 10, how likely do you think it is that your teenager (or a teenager who used drugs) will stop using drugs after (s/he) is done with the program? ___ ___
    1 = won't stop  10 = stop for sure

72. Do you think _____ (or a teenager who abused alcohol) could ever learn to drink in a controlled/moderated fashion? ___
    1) Definitely no
    2) Probably no
    3) Cannot tell
    4) Probably yes
    5) Definitely yes

73. Do you think _____ (or a teenager who abused drugs) could ever learn to use drugs in a recreational (controlled) fashion? ___
    1) Definitely no
    2) Probably no
    3) Cannot tell
    4) Probably yes
    5) Definitely yes

INTERVIEWER - BEFORE BEGINNING THE NEXT SECTION, RATE THE PARENT ON THE FOLLOWING DIMENSIONS:

74. How accurate (factual, truthful) do you feel the parent's responses are? ___
    1) Very accurate
    2) Reasonably accurate
    3) Cannot tell
    4) Somewhat inaccurate
    5) Very inaccurate

75. How much denial (agreement between verbal statements and affect and/or degree of minimizing known problem(s)) is apparent in the parent's responses thus far? ___
    1) No denial - very open
    2) Occasional denial of problems
    3) Moderate denial of problems
    4) Significant denial of problems
    5) Extreme denial of problems

ADOLESCENT SCREENING FORM

Please answer the following questions concerning your (or your child's) medical history:

| | | Yes | No |
|---|---|---|---|
| 1. | Do you have: Diabetes | ____ | ____ |
| | Cancer | ____ | ____ |
| | Meningitis | ____ | ____ |
| | Encephalitis | ____ | ____ |
| | Dementia | ____ | ____ |
| | Metabolic encephalopathy | ____ | ____ |
| | Cerebral Aneurysm | ____ | ____ |
| | Poliomyelitis | ____ | ____ |
| | Multiple Sclerosis | ____ | ____ |
| | Hydrocephalus | ____ | ____ |
| | Cerebral Palsey | ____ | ____ |
| | Brain tumors | ____ | ____ |
| | Epilepsy | ____ | ____ |
| 2. | Have you ever had any head trauma or injury? | ____ | ____ |

If so, explain: _____

# Appendix E

## Customary Drinking/Drug Use Record

FID#_____ Date_____

CUSTOMARY DRINKING/DRUG USE RECORD (Adolescent)

THE FOLLOWING ARE QUESTIONS CONCERNING YOUR EXPERIENCES USING ALCOHOL. WE ARE INTERESTED IN YOUR FIRST EXPERIENCE OTHER THAN A TASTE OR SIP.

1. How old were you when you first began smoking cigarettes or using chewing tobacco on a regular basis? _____Age ___ ___

2. During the past 3 months, how many cigarettes per week have you smoked? ___ ___ ___
   00) Never smoked
   Number cigarettes/wk_____

3. During the past 3 months, how many days per month have you smoked cigarettes? ___ ___
   00) Never smoked (Code 00)
   Code number of days (0-30)

4. When was the last time you smoked cigarettes? ___ ___ ___
   Record date and code number of days since last use_____
   (NOTE: If subject has smoked today, code as 001)

ALCOHOL SCALE

INTERVIEWER: For questions (#5-23) use the following scale to record number of drinks:

1 drink = 1 single mixed drink or 12-oz. beer or 4 oz. wine

| For wine: | | For whiskey: | |
|---|---|---|---|
| 4 oz. wine | = 1 drink | 1 shot | = 1 drink |
| 1 pint | = 3 drinks | 1 pint | = 10 drinks |
| 1 fifth | = 6 drinks | 1 fifth | = 16 drinks |
| 1 gallon | = 15 drinks | | |

Give subject 3x5 card with frequency scale. Score exact number if under 50, or at upper end of each scale.

| Scale | | | |
|---|---|---|---|
| 0- 50 | 151-200 | 401-500 | 701-800 |
| 51-100 | 201-300 | 501-600 | 801-900 |
| 101-150 | 301-400 | 601-700 | 901-998 |

5. How old were you when you first began drinking BEER regularly? _____Age ___ ___

6. In your lifetime, how many times have you drunk beer? ___ ___ ___
   Number of times_____

7. During the last 3 months, how many days per month did you drink beer (prior to the treatment program)? ___ ___
   Days per month_____(SCORE 0 -30 THROUGHOUT)

8. Over the last 3 months, in the average 24-hour period you were drinking, how many beers did you have? ___ ___

9. When was the last time you drank beer? ___ ___ ___
(If under 3 months, record exact number of days; 4 mo = 120, 5 mo = 150, etc.)
Date_____

10. How many beers did you drink on that occasion? ___ ___

11. How old were you when you first began drinking WINE regularly? _____Age ___ ___

12. In your lifetime, how many times have you drunk wine? ___ ___ ___
[Chart] Number of times_____

13. During the last 3 months, how many days per month did you drink wine (prior to the treatment program)? ___ ___
Days per month_____

14. Over the last 3 months, in the average 24-hour period you were drinking, how much wine did you have? ___ ___

15. When was the last time you drank wine? ___ ___ ___
(If under 3 months, record exact number of days; 4 mo = 120, 5 mo = 150, etc.)
Date_____

16. How much wine did you drink on that occasion? ___ ___

17. How old were you when you first began drinking HARD LIQUOR (bourbon, vodka, etc.) regularly? _____Age ___ ___

18. In your lifetime, how many times have you drunk hard liquor? [Chart] ___ ___ ___
Number of times_____

19. During the last 3 months, how many days per month did you drink hard liquor (prior to the treatment program)? ___ ___
Days per month_____

20. Over the last 3 months, in the average 24-hour period you were drinking, how much hard liquor did you have? ___ ___

21. When was the last time you drank hard liquor? ___ ___ ___
(If under 3 months, record exact number of days; 4 mo = 120, 5 mo = 150, etc.)
Date_____

22. How much hard liquor did you drink on that occasion? ___ ___

23. In the last 3 months, what is the largest amount of alcohol (beer, wine, hard liquor) you have consumed during one time period? ___ ___

24. How old were you when you started drinking alcohol (beer, wine or liquor) regularly/at least once per week? _____Age ___ ___

| Now I'm going to ask you about some problems you may have had when you were drinking alcohol. I would like to know if you have ever had the problem, and if so, the number of times in the 3 months before the TP. | Ever No=0 Yes=1 | In last 3 months (#times) | |
|---|---|---|---|
| 25. Fights | ___ | ___ | ___ |
| 26. Trouble at school (e.g., sent to principal, suspended, expelled) | ___ | ___ | ___ |
| 27. Trouble at work (e.g., laid off, fired, demoted) | ___ | ___ | ___ |
| 28. Poor judgement (made mistakes at school or work: forgot to do things, had accidents, etc.) | ___ | ___ | ___ |
| 29. Periods of time that later you could not remember (blackouts) | ___ | ___ | ___ |
| 30. Stopped going to school, work or activities (sport, hobby) for at least 3 months because you felt sad, anxious or irritable | ___ | ___ | ___ |
| 31. Had difficulty concentrating, remembering, paying attention or doing job or school work, which you could do before (problems must persist at least 3 months) | ___ | ___ | ___ |

TO DATE, when you cut down or stopped drinking alcohol have you had any of the following problems within two days?

| | Ever No=0 Yes=1 | 3 months TO DATE (# times) | |
|---|---|---|---|
| 32. Shaking the morning after (hands, tongue or eyelids) | ___ | ___ | ___ |
| 33. Stomach upset, nausea and vomiting | ___ | ___ | ___ |
| 34. Muscle aches, pains or weakness | ___ | ___ | ___ |
| 35. Heart racing, sweating, rapid breathing, high blood pressure | ___ | ___ | ___ |
| 36. Depressed or irritable | ___ | ___ | ___ |
| 37. Felt weak or faint when you sat or stood up | ___ | ___ | ___ |
| 38. Heard things that actually were not there and felt anxious or upset about it | ___ | ___ | ___ |

THE FOLLOWING ARE QUESTIONS CONCERNING YOUR EXPERIENCES USING DRUGS OTHER THAN ALCOHOL. WE ARE INTERESTED IN YOUR FIRST EXPERIENCE.

| | | |
|---|---|---|
| 39. How old were you when you first began using MARIJUANA? _____Age | ___ | ___ |
| 40. How old were you when you started using marijuana regularly/at least once per week? _____Age | ___ | ___ |

41. How many times in your lifetime have you used marijuana? [Chart]
Number of times_____ ___ ___ ___

42. How many days per month did you use marijuana during the 3 months before the treatment program?
Days per month_____ ___ ___

43. When was the last time you used marijuana?
(If under 3 months, record exact number of days; 4 mo = 120, 5 mo = 150, etc.)
Date_____ ___ ___ ___

44. How old were you when you first began using **AMPHETAMINES** (crystal meth, uppers, speed, ecstasy, etc.)? _____Age ___ ___

45. How old were you when you started using amphetamines regularly/at least once per week? _____Age ___ ___

46. How many times in your lifetime have you used amphetamines? [Chart]
Number of times_____ ___ ___ ___

47. How many days per month did you use amphetamines during the 3 months before the treatment program?
Days per month_____ ___ ___

48. When was the last time you used amphetamines?
(If under 3 months, record exact number of days; 4 mo = 120, 5 mo = 150, etc.)
Date_____ ___ ___ ___

49. How old were you when you first began using **BARBITURATES** (downers, qualudes, etc.)? _____Age ___ ___

50. How old were you when you started using barbiturates regularly/at least once per week? _____Age ___ ___

51. How many times in your lifetime have you used barbiturates? [Chart]
Number of times_____ ___ ___ ___

52. How many days per month did you use barbiturates during the 3 months before the treatment program?
Days per month_____ ___ ___

53. When was the last time you used barbiturates?
(If under 3 months, record exact number of days; 4 mo = 120, 5 mo = 150, etc.)
Date_____ ___ ___ ___

54. How old were you when you first began using **HALLUCINOGENS** (PCP, LSD, mushrooms, peyote)? _____Age ___ ___

55. How old were you when you started using hallucinogens regularly/at least once per week? _____Age ___ ___

56. How many times in your lifetime have you used hallucinogens? [Chart] ___ ___ ___
Number of times_____

57. How many days per month did you use hallucinogens during the 3 months before the treatment program? ___ ___
Days per month_____

58. When was the last time you used hallucinogens? ___ ___ ___
(If under 3 months, record exact number of days; 4 mo = 120, 5 mo = 150, etc.)
Date_____

59. How old were you when you first began using **COCAINE** (or crack)? _____Age ___ ___

60. How old were you when you started using cocaine (or crack) regularly/at least once per week? _____Age ___ ___

61. How many times in your lifetime have you used cocaine (or crack)? [Chart] ___ ___ ___
Number of times_____

62. How many days per month did you use cocaine (or crack) during the 3 months before the treatment program? ___ ___
Days per month_____

63. When was the last time you used cocaine (or crack)? ___ ___ ___
(If under 3 months, record exact number of days; 4 mo = 120, 5 mo = 150, etc.)
Date_____

64. How old were you when you first began using **INHALENTS** (solvents, glue, gasoline, amyl nitrates, nitrous oxide [rush], white out)? _____Age ___ ___

65. How old were you when you started using inhalents regularly/at least once per week? _____Age ___ ___

66. How many times in your lifetime have you used inhalents? [Chart] ___ ___ ___
Number of times_____

67. How many days per month did you use inhalents during the 3 months before the treatment program? ___ ___
Days per month_____

68. When was the last time you used inhalents? ___ ___ ___
(If under 3 months, record exact number of days; 4 mo = 120, 5 mo = 150, etc.)
Date_____

69. How old were you when you first began using **OPIATES** (heroine, morphine)? _____Age ___ ___

70. How old were you when you started using opiates regularly/at least once per week? _____Age ___ ___

71. How many times in your lifetime have you used opiates? [Chart]
Number of times_____ ___ ___ ___

72. How many days per month did you use opiates during the 3 months before the treatment program?
Days per month_____ ___ ___

73. When was the last time you used opiates?
(If under 3 months, record exact number of days; 4 mo = 120, 5 mo = 150, etc.)
Date_____ ___ ___ ___

74. Is there another drug you have used? ___
0) No
1) Yes
Name of drug_____

INTERVIEWER: If multiple drugs are reported, list and record the drug that is used the most. If no other drug is reported, skip to question #80.

75. How old were you when you first began using _____? ___ ___
_____Age

76. How old were you when you started using _____ regularly/at least once per week? _____Age ___ ___

77. How many times in your lifetime have you used _____? [Chart]
Number of times_____ ___ ___ ___

78. How many days per month did you use _____ during the 3 months before the treatment program?
Days per month_____ ___ ___

79. When was the last time you used _____?
(If under 3 months, record exact number of days; 4 mo = 120, 5 mo = 150, etc.)
Date_____ ___ ___ ___

80. Have you ever had a prescription drug that you took over the prescribed dosage (took more than you should)? [Chart]
Number of times_____
Name of drug_____ ___ ___ ___

81. What is your drug of choice?_____ ___ ___

82. In your life, how many times have you been drunk? [Chart]
Number of times_____ ___ ___ ___

83. In your life, how many times have you been stoned from drugs? [Chart] ___ ___ ___
Number of times_____

84. Have you ever used any drugs IV (with a needle)? ___ ___
00) No
If yes, age of first use _____ Which drug?_____

**HAVE YOU HAD ANY OF THE FOLLOWING PROBLEMS WHEN YOU CUT DOWN OR STOPPED USING DRUGS?**
**INTERVIEWER: Code number of days or 00 for No or Never. 'Last 3 months' INCLUDES period of time in treatment.**

85. Stomach upset, nauseated or vomiting? ___ ___
If yes, number of days in the last three months

86. Diarrhea (frequent and watery bowels) ___ ___
If yes, number of days in the last three months

87. Muscle aches, cramps or weakness? ___ ___
If yes, number of days in the last three months

88. Hair standing up? ___ ___
If yes, number of days in the last three months

89. Eyes dilated? ___ ___
If yes, number of days in the last three months

90. Runny nose? ___ ___
If yes, number of days in the last three months

91. Teary eyes? ___ ___
If yes, number of days in the last three months

92. Fever? ___ ___
If yes, number of days in the last three months

93. Quick or rapid breathing, heart racing or pounding? ___ ___
If yes, number of days in the last three months

94. Decreased blood pressure; feeling weak or faint when you stood up? ___ ___
If yes, number of days in the last three months

95. Fatigue, excessive yawning? ___ ___
If yes, number of days in the last three months

96. Feeling anxious or nervous? ___ ___
If yes, number of days in the last three months

97. Excessive/heavy sweating? ___ ___
If yes, number of days in the last three months

98. Feeling angry, hostile or acting aggressive? ___ ___
If yes, number of days in the last three months

99. Thoughts that someone was after you or out to get you (felt paranoid)? ___ ___
If yes, number of days in the last three months

100. Thought you were a very important person? (delusion) ___ ___
If yes, number of days in the last three months

101. Shaking of hands, tongue, and eyelids? ___ ___
If yes, number of days in the last three months

102. Confusion (difficulty understanding what people are saying or getting directions mixed up)? ___ ___
If yes, number of days in the last three months

103. Confused about who you are, where you are or what time/date/year it is? (disoriented) ___ ___
If yes, number of days in the last three months

104. Forgetfulness, difficulty remembering things? ___ ___
If yes, number of days in the last three months

105. Difficulty sleeping, such as: taking more than 30 minutes to fall asleep; waking up during the night (other than to go to the bathroom, and taking more than 30 minutes to fall back to sleep); waking up earlier than usual and not being able to fall back to sleep? ___ ___
If yes, number of days in the last three months

106. Increased dreaming? ___ ___
If yes, number of days in the last three months

107. Loss of appetite? ___ ___
If yes, number of days in the last three months

108. Feeling depressed? ___ ___
If yes, number of days in the last three months

109. Feeling irritable? ___ ___
If yes, number of days in the last three months

110. Convulsions/seizures? ___ ___
If yes, number of days in the last three months

111. Hearing or seeing things that don't exist? (hallucinations) ___ ___
If yes, number of days in the last three months

112. Have you had any other problems, not already mentioned, when you cut down or stopped using drugs? ___ ___
List symptoms _____
If yes, number of days in the last three months

113. When you drink, how often do you get drunk? ___
0) Don't drink
1) Stop before getting drunk
2) Almost always stop before getting drunk
3) Stop before getting drunk more than half the time
4) Get drunk more than half the time
5) Usually get drunk

114. When you use use drugs, how often do you get high/stoned? ___
0) Don't use
1) Stop before getting stoned
2) Almost always stop before getting stoned
3) Stop before getting stoned more than half the time
4) Get stoned more than half the time
5) Usually get stoned

115. Where do you usually drink/use? ___ ___
00) Nowhere (don't drink or use)
01) Car/vehicle/motorcycle
02) Home
03) Friend's house
04) Party/social event
05) Park or beach
06) Shopping mall/rec center
07) School
08) Work
09) Anywhere and everywhere
10) Restaurant/bar
11) Other (specific place)_____

116. Who do you usually drink/use with? ___
0) Not applicable, don't drink or use
1) Alone
2) Casual acquaintances
3) Friends
4) Partner/boyfriend/girlfriend
5) Family members

HAVE YOU EVER HAD ANY OF THE FOLLOWING EXPERIENCES BECAUSE OF YOUR ALCOHOL OR DRUG USE?
INTERVIEWER: Record 3 most frequently used drugs. Ask questions 117-129 for alcohol and for <u>each</u> drug.

| | | Top 3 drugs | | |
|---|---|---|---|---|
| | Alcohol | #1 | #2 | #3 |
| 117. During the past year have you found yourself often thinking of, looking for or remembering using alcohol/drugs? (<u>preoccupation</u>) | ____ | ____ | ____ | ____ |
| 118. Have you often taken alcohol/drugs in larger amounts or more often than you planned to? (reduced <u>control</u>) | ____ | ____ | ____ | ____ |
| 119. Do you need more alc/drugs to get the same effect or do you find you don't get the same effect as you used to when you take your usual amount of alcohol? (<u>tolerance</u>) | ____ | ____ | ____ | ____ |
| 120. Do you take more of the alc/drugs to <u>avoid</u> or reduce withdrawal symptoms? (Interviewer: give example for each drug.) (<u>relief use</u>) | ____ | ____ | ____ | ____ |
| 121. Have you wanted or tried to limit, cut down or stop drinking/using before? | ____ | ____ | ____ | ____ |
| 122. Have you used alc/drugs when you go to school, work or are supposed to be doing something? | ____ | ____ | ____ | ____ |
| 123. Have you missed school, work, activities or get-togethers with friends or family because you were drunk/stoned? | ____ | ____ | ____ | ____ |
| 124. Have you driven a car while drunk/stoned? | ____ | ____ | ____ | ____ |
| 125. Have you stopped seeing or doing things with certain people in order to get or use alcohol/drugs? | ____ | ____ | ____ | ____ |
| 126. Have you missed or stopped work or changed activities or schedule at work so you can get or use alcohol/drugs? | ____ | ____ | ____ | ____ |
| 127. Have you stopped or missed school or changed your classes or schedule so you can get or use alcohol/drugs? | ____ | ____ | ____ | ____ |
| 128. Have you stopped any activity (sport, hobby, recreational activity) so you can get or use alcohol/drugs? | ____ | ____ | ____ | ____ |

129. Have you ever had any of the following problems because of YOUR alcohol or drug use? Record number of times for each drug.

| | Alcohol | Top 3 drugs #1 | #2 | #3 |
|---|---|---|---|---|
| -Relationship breakup | ___# | ___# | ___# | ___# |
| -Laid off, demoted or fired from a job | ___# | ___# | ___# | ___# |
| -Been arrested because of alcohol or drugs | ___# | ___# | ___# | ___# |
| -Doctor said you had a medical problem | ___# | ___# | ___# | ___# |
| -Been suspended or expelled from school | ___# | ___# | ___# | ___# |

130. How would you label your drinking pattern? ___
0) Nondrinker
1) Infrequent, ocasional or light drinker
2) Moderate or social drinker
3) Frequent or heavy social drinker
4) Problem drinker, alcoholic
5) Former alcoholic, currently abstaining

131. How would you label your drug use pattern? ___
0) Nonuser
1) Infrequent, occasional or light user
2) Moderate, recreational user
3) Frequent or heavy user
4) Problem user, addict
5) Former addict, currently abstaining

# Appendix F

## Children of Alcoholics Screening Test

## Appendix G

## Subject's Bill of Rights

UNIVERSITY OF CALIFORNIA, SAN DIEGO

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VICE CHANCELLOR FOR HEALTH SCIENCES
DEAN, SCHOOL OF MEDICINE

LA JOLLA, CALIFORNIA 92093
M-002

EXPERIMENTAL SUBJECT'S BILL OF RIGHTS

The faculty and staff of the University of California, San Diego wish you to know:

Any person who is requested to consent to participate as a subject in a research study involving a medical experiment, or who is requested to consent on behalf of another, has the right to:

1. Be informed of the nature and purpose of the experiment.

2. Be given an explanation of the procedures to be followed in the medical experiment, and any drug or device to be used.

3. Be given a description of any attendant discomforts and risks reasonably to be expected from the experiment.

4. Be given an explanation of any benefits to the subject reasonably to be expected from the experiment, if applicable.

5. Be given a disclosure of any appropriate alternative procedures, drugs, or devices that might be advantageous to the subject, and their relative risks and benefits.

6. Be informed of the avenues of medical treatment, if any, available to the subject after the experiment if complications should arise.

7. Be given an opportunity to ask any questions concerning the experiment or the procedures involved.

8. Be instructed that consent to participate in the medical experiment may be withdrawn at any time, and the subject may discontinue participation in the medical experiment without prejudice.

9. Be given a copy of a signed and dated written consent form when one is required.

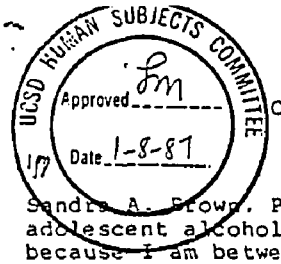
10. Be given the opportunity to decide to consent or not to consent to a medical experiment without the intervention of any element of force, fraud, deceit, duress, coercion, or undue influence on the subject's decision.

If you have questions regarding a research study, the researcher or his/her assistant will be glad to answer them. You may seek information from the Human Subjects Committee - established for the protection of volunteers in research projects - by calling (619) 534-4520 from 8 am to 5 pm, Monday through Friday, or by writing to the above address.

Appendix H

Consent Form for Adolescents

Consent Form for Parents




CONSENT TO ACT AS A RESEARCH SUBJECT
(Adolescents)

Sandra A. Brown, Ph.D. is conducting a study to find out more about adolescent alcohol and drug problems. I have been asked to take part because I am between the ages of 12 and 19.

If I am in the study, I will be interviewed, complete several questionnaires, and take a battery of tests of my thinking ability. In the interview I will be asked questions about my family background and alcohol and drug use. The questionnaires will ask about my friends, family, and my feelings about myself. I will be interviewed again in 6 and 12 months from now. Also, I may be contacted for a two-year follow-up.

The first session will take about three hours and each of the follow-up sessions will last approximately two hours. I will be paid $10 for participation in the initial session, $10 for participating in the 6-month follow-up, and $20 for participating in the 12-month follow-up. Payment for the possible 2-year follow-up is as yet undetermined.

There will be no direct benefit to me from these sessions. The investigators may learn more about factors that lead to adolescent alcohol and drug abuse.

Dr. Sandra Brown or her assistant has explained this study to me and answered my questions. If I have any questions or problems, I may reach Dr. Brown at 453-7500, extension 3324.

Participation in research is entirely voluntary, and I may refuse to participate at any time without any negative consequences.

Research records will be kept completely confidential: that is, no one except the researchers will see them and my name will not be given out without my written consent, unless required by law.

I have been a copy of this consent document and "The Experimental Subject's Bill of Rights."

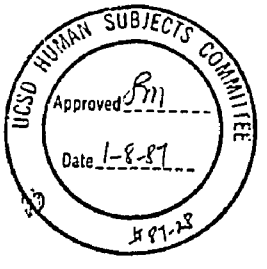
I agree to participate in this study.

| | | |
|---|---|---|
| Subject's signature | Witness | Date |
| Parent/Guardian's signature | Witness | Date |

Date:

I HEREBY GRANT MY PERMISSION TO RELEASE SCHOOL, TESTING, AND/OR ACADEMICALLY-RELATED RECORDS TO DR. SANDRA A. BROWN FOR RESEARCH PURPOSES.

| | |
|---|---|
| Adolescent's Name | Parent/Guardian Signature |
| Witness | |



CONSENT TO ACT AS A RESEARCH SUBJECT
(Parents)

Sandra A. Brown, Ph.D., of the Psychiatry Department at the University of California, San Diego, is conducting a study to find out more about adolescent alcohol and drug problems. I have been asked to take part because I have an adolescent between the ages of 12 and 19.

If I agree to be in the study, the following procedure will occur: 1) I will be interviewed by a trained research assistant; 2) I will complete several questionnaires focusing on my adolescent and his/her alcohol or drug use; and 3) I will be interviewed at 6 and 12 months from now. Additionally, may be contacted regarding a 2-year follow-up interview.

Each interview and questionnaire session will require 1- to 1 1/2 hours to complete. I will be paid $10 for the initial interview, $10 for the 6-month interview, and $20 for the 12-month interview. Payment for the 2-year interview has not yet been determined.

There will be no direct benefit to me or my adolescent for these procedures. The investigators may learn more about factors that lead to adolescent alcohol and drug abuse.

Dr. Brown or her assistant has explained the study to me and answered my questions. If I have any other questions or research-related problems, I may reach Dr. Brown at 453-7500, extension 3324.

Participation in research is entirely voluntary, and I may refuse to participate at any time without any negative consequences.

Research records will be kept completely confidential. My identity will not be disclosed without my written consent, unless required by law.

I have received a copy of this consent document and "The Experimental Subject's Bill of Rights."

I agree to participate.

| Subject's Signature | Witness | Date |
|---|---|---|

# Appendix I

## Raw Data

| | AEQ1 | AEQ2 | AEQ3 | AEQ4 | AEQ5 | AEQ6 | AEQ7 | EXP.COMP | AM%EXP | FH.COMP |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 8 | 4 | 0 | 6 | 23 | 7 | 11 | 1 | 100 | . |
| 2 | 7 | 4 | 3 | 7 | 24 | 7 | 12 | 1 | 100 | . |
| 3 | 7 | 14 | 1 | 6 | 21 | 7 | 13 | 1 | 100 | . |
| 4 | . | . | . | . | . | . | . | . | . | . |
| 5 | 10 | 9 | 0 | 3 | 22 | 6 | 13 | 1 | 80 | 2 |
| 6 | 6 | 7 | 0 | 3 | 22 | 2 | 9 | 1 | 100 | . |
| 7 | 5 | 7 | 2 | 3 | 23 | 7 | 13 | 1 | 100 | . |
| 8 | 3 | 10 | 1 | 6 | 22 | 4 | 7 | 1 | 100 | . |
| 9 | 14 | 17 | 1 | 7 | 20 | 8 | 12 | . | . | . |
| 10 | 2 | 1 | 0 | 0 | 24 | 3 | 6 | . | 0 | 0 |
| 11 | 10 | 8 | 2 | 6 | 24 | 8 | 13 | 1 | 88 | . |
| 12 | 13 | 1 | 1 | 5 | 24 | 7 | 11 | 1 | 92 | . |
| 13 | 11 | 4 | 2 | 4 | 22 | 5 | 11 | 1 | 79 | . |
| 14 | 8 | 5 | 3 | 6 | 23 | 8 | 10 | . | . | . |
| 15 | 0 | 1 | 0 | 2 | 19 | 4 | 4 | . | 0 | 0 |
| 16 | 3 | 0 | 0 | 0 | 20 | 2 | 7 | 0 | 15 | . |
| 17 | 8 | 11 | 2 | 6 | 23 | 7 | 13 | 1 | 100 | . |
| 18 | 4 | 3 | 0 | 2 | 22 | 4 | 7 | . | . | . |
| 19 | 1 | 1 | 0 | 0 | 21 | 1 | 6 | . | 0 | 0 |
| 20 | 3 | 4 | 0 | 1 | 20 | 3 | 0 | 1 | 82 | . |
| 21 | 8 | 9 | 1 | 6 | 22 | 8 | 12 | . | 0 | 0 |
| 22 | 8 | 8 | 2 | 1 | 18 | 6 | 8 | . | 0 | 0 |
| 23 | 5 | 7 | 0 | 3 | 23 | 3 | 11 | 1 | 100 | . |
| 24 | 1 | 0 | 0 | 3 | 23 | 5 | 9 | 0 | 0 | . |
| 25 | 5 | 7 | 2 | 2 | 23 | 4 | 11 | . | 0 | . |
| 26 | 8 | 11 | 1 | 4 | 21 | 5 | 13 | . | 0 | 0 |
| 27 | 12 | 3 | 0 | 6 | 23 | 6 | 12 | . | 0 | . |
| 28 | 2 | 5 | 0 | 0 | 17 | 0 | 1 | . | 0 | 0 |
| 29 | 10 | 7 | 0 | 5 | 24 | 5 | 13 | 0 | 13 | . |
| 30 | 6 | 5 | 1 | 3 | 23 | 8 | 12 | . | 0 | 0 |
| 31 | 3 | 1 | 1 | 6 | 24 | 5 | 8 | . | 0 | 0 |
| 32 | 4 | 2 | 0 | 4 | 23 | 0 | 7 | . | 0 | 0 |
| 33 | 9 | 3 | 0 | 6 | 24 | 6 | 11 | 0 | 0 | 0 |
| 34 | 15 | 8 | 2 | 6 | 20 | 8 | 11 | . | 0 | 0 |
| 35 | 0 | 4 | 0 | 0 | 15 | 0 | 7 | . | 0 | 0 |
| 36 | 8 | 2 | 1 | 4 | 23 | 7 | 12 | 0 | 7 | 2 |
| 37 | 9 | 8 | 1 | 5 | 19 | 7 | 12 | 1 | 78 | 0 |
| 38 | 8 | 3 | 0 | 7 | 22 | 6 | 12 | . | . | . |
| 39 | 6 | 13 | 1 | 4 | 19 | 8 | 10 | 0 | 25 | . |
| 40 | 1 | 1 | 0 | 2 | 22 | 4 | 10 | 0 | 25 | . |
| 41 | 1 | 5 | 0 | 2 | 21 | 6 | 6 | 0 | 0 | 2 |
| 42 | 4 | 0 | 0 | 0 | 22 | 4 | 5 | . | 0 | 2 |
| 43 | 7 | 9 | 0 | 4 | 18 | 2 | 12 | 0 | 0 | 2 |
| 44 | 8 | 8 | 1 | 7 | 23 | 3 | 13 | 0 | 7 | . |

| | AEQ1 | AEQ2 | AEQ3 | AEQ4 | AEQ5 | AEQ6 | AEQ7 | EXP.COMP | AM%EXP | FH.COMP |
|---|---|---|---|---|---|---|---|---|---|---|
| 45 | 7 | 3 | 0 | 5 | 20 | 6 | 10 | . | 0 | 2 |
| 46 | 12 | 3 | 2 | 7 | 21 | 8 | 12 | . | 0 | 2 |
| 47 | 8 | 11 | 0 | 6 | 24 | 8 | 10 | . | 0 | 2 |
| 48 | 1 | 1 | 0 | 1 | 18 | 1 | 5 | 0 | 0 | 2 |
| 49 | 4 | 4 | 1 | 3 | 19 | 4 | 10 | 0 | 21 | 2 |
| 50 | 8 | 7 | 0 | 5 | 21 | 5 | 12 | 0 | 7 | 2 |
| 51 | 7 | 5 | 1 | 1 | 23 | 6 | 11 | . | 0 | 2 |
| 52 | 9 | 7 | 2 | 3 | 23 | 7 | 11 | . | 0 | 2 |
| 53 | 8 | 6 | 1 | 4 | 23 | 4 | 13 | 0 | 21 | 2 |
| 54 | 9 | 1 | 0 | 4 | 20 | 4 | 9 | 0 | 0 | 2 |
| 55 | 7 | 4 | 1 | 3 | 23 | 3 | 5 | 1 | 100 | . |
| 56 | 8 | 7 | 1 | 4 | 22 | 7 | 13 | . | 21 | 0 |

| | AGE | AGENDER | HOLLINGS | #FAMLIES | VV | CAST.TOT | FES.COHE | FES.EXPR | FES.CONF |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 13 | 1 | 48 | 2 | 1 | 3 | 6 | 3 | 5 |
| 2 | 15 | 2 | 48 | 2 | 1 | 6 | 3 | 4 | 4 |
| 3 | 15 | 1 | 51 | 2 | 8 | . | 7 | 6 | 0 |
| 4 | . | . | . | . | . | . | . | . | . |
| 5 | 15 | 2 | 51 | 2 | 4 | 18 | 6 | 7 | 8 |
| 6 | 16 | 1 | 26 | 6 | 4 | 4 | 7 | 7 | 3 |
| 7 | 13 | 1 | 33 | 4 | 6 | 0 | 2 | 4 | 6 |
| 8 | 13 | 1 | 33 | 2 | 1 | 22 | 4 | 1 | 7 |
| 9 | 17 | 2 | 40 | 1 | 4 | 22 | 2 | 1 | 4 |
| 10 | 15 | 1 | 15 | 4 | 1 | 0 | 9 | 8 | 0 |
| 11 | 16 | 2 | 33 | 3 | 1 | 20 | 6 | 4 | 8 |
| 12 | 12 | 1 | 51 | 1 | 1 | 15 | 5 | 5 | 8 |
| 13 | 14 | 2 | 51 | 1 | 1 | 17 | 6 | 4 | 8 |
| 14 | 15 | 1 | 40 | 5 | 3 | 19 | 2 | 4 | 6 |
| 15 | 15 | 1 | 40 | 1 | 1 | 0 | 8 | 7 | 0 |
| 16 | 13 | 1 | 29 | 2 | 1 | 0 | 8 | 5 | 4 |
| 17 | 15 | 1 | 29 | 3 | 3 | 4 | 3 | 6 | 4 |
| 18 | 13 | 1 | 33 | 3 | 1 | 0 | 3 | 5 | 4 |
| 19 | 16 | 2 | 33 | 3 | 1 | 0 | 3 | 2 | 4 |
| 20 | 17 | 1 | 29 | 3 | 3 | 0 | 6 | 2 | 4 |
| 21 | 16 | 1 | 18 | 2 | 3 | 0 | 6 | 8 | 6 |
| 22 | 14 | 1 | 11 | 2 | 3 | 0 | 4 | 0 | 5 |
| 23 | 17 | 2 | 34 | 4 | 4 | 26 | 8 | 5 | 5 |
| 24 | 13 | 1 | 47 | 2 | 1 | 0 | 8 | 5 | 1 |
| 25 | 14 | 1 | 22 | 1 | 3 | 3 | 8 | 6 | 3 |
| 26 | 16 | 1 | 11 | 2 | 1 | 0 | 9 | 5 | 2 |
| 27 | 14 | 1 | 11 | 1 | 1 | 0 | 8 | 8 | 2 |
| 28 | 17 | 1 | 22 | 3 | 1 | 0 | 9 | 8 | 3 |
| 29 | 15 | 2 | 22 | 3 | 2 | 10 | 9 | 4 | 2 |
| 30 | 14 | 1 | 15 | 1 | 1 | 0 | 9 | 6 | 3 |
| 31 | 18 | 1 | 11 | 2 | 1 | 0 | 8 | 4 | 1 |
| 32 | 17 | 1 | 18 | 1 | 1 | 0 | 9 | 8 | 0 |
| 33 | 13 | 2 | 15 | 1 | 1 | 8 | 9 | 8 | 1 |
| 34 | 17 | 2 | 11 | 3 | 1 | 0 | 7 | 7 | 2 |
| 35 | 18 | 1 | 11 | 2 | 3 | 0 | 7 | 4 | 3 |
| 36 | 14 | 2 | 22 | 2 | 1 | 0 | 8 | 2 | 6 |
| 37 | 14 | 2 | . | 3 | 1 | 10 | 7 | 8 | 2 |
| 38 | 17 | 1 | 22 | 2 | 3 | 7 | 7 | 6 | 5 |
| 39 | 16 | 2 | 33 | 2 | 3 | 5 | 8 | 4 | 2 |
| 40 | 12 | 1 | 33 | 2 | 1 | 4 | 9 | 5 | 2 |
| 41 | 16 | 1 | 29 | 1 | 1 | 0 | 9 | 7 | 0 |
| 42 | 17 | 1 | 37 | 1 | 1 | 0 | 9 | 7 | 2 |
| 43 | 17 | 2 | 22 | 3 | 4 | 0 | 8 | 7 | 0 |
| 44 | 15 | 2 | 22 | 3 | 3 | 2 | 7 | 5 | 1 |

| | AGE | AGENDER | HOLLINGS | #FAMLIES | VV | CAST.TOT | FES.COHE | FES.EXPR | FES.CONF |
|---|---|---|---|---|---|---|---|---|---|
| 45 | 17 | 1 | 43 | 1 | 1 | 1 | 6 | 4 | 2 |
| 46 | 15 | 2 | 43 | 1 | 1 | 0 | 8 | 5 | 2 |
| 47 | 17 | 1 | 29 | 1 | 4 | 0 | 6 | 3 | 8 |
| 48 | 13 | 1 | 29 | 1 | 1 | 0 | 8 | 4 | 7 |
| 49 | 14 | 2 | 54 | 3 | 1 | 0 | 7 | 7 | 2 |
| 50 | 15 | 1 | 61 | 2 | 4 | 18 | 5 | 3 | 6 |
| 51 | 14 | 2 | 15 | 4 | 3 | 0 | 4 | 7 | 3 |
| 52 | 15 | 2 | 47 | 1 | 1 | 0 | 3 | 4 | 6 |
| 53 | 17 | 1 | 22 | 4 | 4 | 9 | 6 | 4 | 4 |
| 54 | 16 | 1 | 26 | 3 | 1 | 0 | 7 | 1 | 1 |
| 55 | 15 | 2 | 61 | 3 | 4 | 1 | 0 | 5 | 9 |
| 56 | 14 | 1 | 40 | 3 | 1 | 0 | 7 | 5 | 3 |

# VITA

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Alcohol Dependency Treatment Program
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EDUCATION

University of California, Berkeley, 1975-1979
A.B. in Psychology, cum laude

California State University, Fullerton, 1980-1982
M.A. in Psychology

Louisiana State University, Baton Rouge, 1982-1989
Ph.D. in Psychology

PROFESSIONAL EXPERIENCE

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| 1988-Present | Psychology Technician<br>Psychology Service and<br>Alcohol Dependency Treatment Program, Department of Veterans Affairs Medical Center, Salem, Virginia |
| 1988-1988 | Program Coordinator (Temporary)<br>Pathfinders Neighborhood Alcohol Recovery Center, San Diego, California |
| 1987-1988 | Project Head, Affective Component of the Alcohol Research Center, Veterans Administration Medical Center, San Diego |
| 1987-1988 | Adjunct Professor<br>University of Redlands, Redlands, California |

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| 1986-1987 | Predoctoral Clinical Psychology Intern University of California, San Diego |
| 1984-1986 | Marriage and Family Counselor, Psychology Testing Assistant, Angelwood Clinic, Baton Rouge, Louisiana |
| 1983-1986 | Employee Assistance Counselor, Psychology Testing Assistant, and Computer System Consultant, Hidalgo and Associates, Employee Assistance Program, Baton Rouge, Louisiana |
| 1983-1986 | Psychological Assistant and Opinion Survey Manager, Zimmermann Psychology Group, Baton Rouge, Louisiana |
| 1982-1986 | Student Staff Psychotherapist, Louisiana State University, Baton Rouge |
| 1982-1983 | Teaching and Research Assistant, Louisiana State University, Baton Rouge |
| 1981-1982 | Teaching and Research Assistant, California State University, Fullerton |
| 1980-1982 | Counselor, Straight Talk Clinic, Cerritos, California |
| 1979-1980 | Youth Counselor, St. Paul's Episcopal Church, Tustin, California |
| 1978-1979 | Volunteer Teacher's Aide, Growing Mind School, Berkeley, California |

RESEARCH EXPERIENCE

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| 1988-Present | Department of Veterans Affairs Medical Center, Salem, Virginia. Alcohol expectancies, programmed and self-help treatment for alcoholism. |

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| 1986-1988 | Veterans Administration Medical Center, San Diego. Adult and adolescent alcohol abuse and expectancies, effects of substance abuse on family members, and affective features, stress, and psychosocial functioning in substance abuse. |
| 1982-1986 | Louisiana State University, Baton Rouge. Parental alcoholism and children's psychosocial functioning, parent training, psychophysiology of eating disorders, neurotensin and eating in rats. |
| 1979-1982 | California State University, Fullerton. Self-control and choice in humans and pigeons, video games as positive reinforcers, cognitive categorization by the elderly, parietal lobe functioning in dyslexia. |
| 1978-1979 | University of California, Berkeley, and University of California, San Francisco. Research assistant to Ricardo Munoz, Ph.D. for project on impact of self-help television broadcast on depression. |

PUBLICATIONS AND PRESENTATIONS:

Brown, S.A., Creamer, V., Mott, M., Vik, P. & Millar, A. Do alcohol expectancies predict post-treatment drinking decisions? Paper presented at the annual convention of the American Psychological Association, Atlanta, 1988.

Brown, S.A., Millar, A. & Passman, L. (1988). Utilizing expectancies in alcoholism treatment. Psychology of Addictive Behaviors, 2, 59-65.

Millar, A. (in preparation). Alcohol expectancies and duration of membership in Alcoholics Anonymous.

Millar, A., and Navarick, D.J. (1984). Self-control and choice in humans: Effects of video game playing as a positive reinforcer. Learning and Motivation, 15, 203-218.

Millar, A., and Zimmermann, M.L. (1987). Hypnosis as a rapid treatment for hospital phobia in the spouse of a surgical patient: A case report. Newsletter of the American Academy of Behavioral Medicine, 7, no. 1, 2-6.

Williamson, D.A., Goreczny, A.J., Cavell, T., Daigle, W., Bernard, B, Millar,A. & McKenzie, S. (1986). Psychophysiological responses of bulimics to eating forbidden foods or a standard meal. Paper presented at the annual convention of the Association for the Advancement of Behavior Therapy, Chicago.

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Title of Dissertation: Adolescent Alcohol Expectancies and Alcohol Use as Functions of Familial Factors

Approved:

Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

Date of Examination:

November 13, 1989